JUN 23 1930

The Successful Promotion of Pharmacy Results Not Only from the Developed Capacities of Its Votaries, but Is Equally Dependent upon Their Active Coöperation.—Share in the Activities of Your State and National Associations.

Vol. XIX, No. 6 JUNE, 1930

JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION

TRADE MARK

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THE 79th ANNUAL MEETING OF THE AMERICAN PHARMACEUTICAL ASSOCIATION WILL BE HELD IN MIAMI, FLA., DATE TO BE NAMED.

The 1931 Meetings of the American Association of Colleges of Pharmacy, the National Association of Boards of Pharmacy, Conferences of Pharmaceutical Association Secretaries and of Pharmaceutical Law Enforcement Officials will also be held at Miami, same time and place.

For Association Roster and Roster of the Boards of Pharmacy, of Officers of Pharmaceutical Associations, Local Branches, see pages x, xii, xiv, etc.

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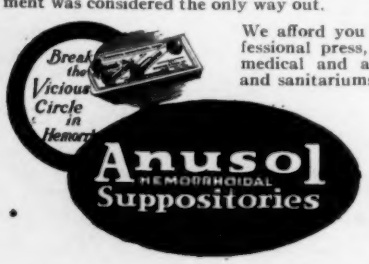

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IDEAS AND IDEALS IN U. S. P. REVISION.

"WE reveal to one another what we are by what we do and as a commonplace, none of us can penetrate, except very superficially and often inaccurately, to the motives that actuate. But the motive is three-fourths of the action."—Alexander MacLaren.

The U. S. Pharmacopœial Convention is over, the work of revising the Pharmacopœia has begun. Each member of the Revision Committee has a responsibility—in a sense he is a Government official, and in public health service. They will discharge the duties assumed, because they understand their responsibilities. The work of revision is of importance because it affects the life and health of the people, and most of the arts and industries—it is a service to mankind. Hence, questions are involved which will not permit members to be dogmatic in rejection or acceptance, or that the view of any individual encompass the whole domain of science and art.

The importance of the Pharmacopœia is attested by the provisions made for its revisions, by its authority in federal and state legislation. It is a book of standards, that may be restricted or broadened, but its fundamental character remains—a standard. The Pharmacopœia is for the guidance of the professions and protection of the public; it is referred to as authority in the courts, by customs inspectors, lawyers and judges; taught in the schools of pharmacy and medicine; is a reference for physicians and an authoritative guide for manufacturers of pharmaceuticals and retail pharmacists.

The work of revision requires men of ability and vision, with an understanding to devise and revise for the best service to the public, the professions and the industries. We are confident the members will measure up to their responsibilities and duties.

M. ALBERT GORIS.

JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION

VOL. XIX JUNE, 1930 No. 6

M. ALBERT GORIS.

Our recently elected member, of France, M. Albert Goris—Doctor of Natural Sciences, Pharmacien-Chef des Hôpitaux, Directeur de la Pharmacie Centrale des Hôpitaux et Hospices civils de Paris, Laureate of the Institute of the Academy of Medicine, Chevalier of the Legion of Honor—is a member of the Codex Commission; also, professor of Galenical Pharmacy.

M. Goris was born in 1874; he carried on all his pharmaceutical studies in the Faculty of Pharmacy of Paris, where he became successively assistant professor, and chief of the Micrographical Department; other advancements will be noted later.

Early in his professional career his research activities were devoted to botanical and histological studies, and in this connection the work on the structure of aconite roots is outstanding, for it contributed knowledge relating to the identification and sources of different species of aconite. The practical application of Professor Goris' research is noteworthy, not only in the subjects mentioned but also in pharmacy and chemistry. We find him engaged in Government work for the standardization of drugs, their identification and purity, and in the laboratories of Prof. Emile Perrot in coöperative research.

His investigations of glucosides and alkaloids are included in various text and reference books. The line of inquiry and thought of his researches are directed to find the place and purpose of these principles in plant economy, what their origin, their destination and fate. He framed an hypothesis which regards them as products of catabolism from cellular activity in some such way as glycuronic acid is related to the phenol excretion in animals.[1] His researches on Kola explained the reason of differences in activity between the undried and the dried nut. He isolated kolatine and kolateine, which in the former state are combined with water, forming a dissociable compound like other caffeine combinations. In the

[1] A. Goris, "Localisation et rôle des alkaloides et des glucosides chez les vegetaux." Preface de M. le Prof. Guignard, Paris, Le Chevalier, 1914.

presence of cardiac muscle this compound possesses a peculiar property in that the two compounds act antagonistically from the point of view of muscle contraction and behave synergistically from the point of view of muscle toxicity. In the dry nut, the kolatine is oxidized and the effect of the drug is that of caffeine alone (*Pharmaceutical Journal and Pharmacist*, 1906 and 1908). He isolated the glucosides of primrose and discovered a new biose, primiverose and established its chemical composition. He showed that the odor (anise-like, later that of methyl salicylate) can be obtained by the splitting of the glucosides by a specific ferment.—See PROCEEDINGS, A. PH. A., 1910, page 176.

In the course of his researches on mushrooms he was among the first to demonstrate the presence of urea in the plant world. He contributed to our knowledge of the fatty matter which envelopes the tubercle bacilli; he isolated certain waxes and fatty bodies, mykole, hyalinol, etc.

In recent years, the work of Dr. Goris has been in association with Dr. Emile Perrot on the standardization of galenical preparations. On comparing the activity of certain galenicals with their content of active principles, chemically determined, he has studied the interaction and relation of chemical constituents; thus, the presence of anthorine with aconitine (see YEAR BOOK A. PH. A., for 1925, page 184), brucine with strychnine, etc.

Our honorary member has made the Pharmacie Centrale de Hôpitaux et Hospices Civils an institution of great public service to pharmacy and to the City of Paris. We welcome him as an honorary member of the AMERICAN PHARMACEUTICAL ASSOCIATION and invite him to share in our work for the advancement of pharmacy.

BILL TO ESTABLISH NARCOTIC BUREAU.

AMENDMENTS OF SENATE AND HOUSE AGREED UPON IN MEASURE FOR NEW UNIT IN TREASURY DEPARTMENT.

Senate and House action sent to President Hoover for signing, June 6th, legislation (H. R. 11143) to create a narcotic bureau in the Treasury Department.

The measure passed the Senate unanimously June 5th, with amendments and returned to the House where it originated. The House in turn, amended the bill in a minor detail, which the Senate then approved.

One of the Senate amendments related to the importation of coca leaves. The other provided that the Secretary of the Treasury coöperate with the several states in suppression of the abuse of narcotic drugs in their respective jurisdictions.

Representative W. C. Hawley, of Salem, Ore., Chairman of the House Ways and Means Committee, on June 6th asked unanimous consent that the House agree to the Senate amendments which he said were only of a minor corrective nature. The House agreed.

Explanation of the amendment relating to coca leaves is given in a letter addressed to Senator Reed Smoot, of Utah, Chairman of the Finance Committee by the Acting Secretary of State, J. P. Cotton, April 24, 1930. The letter states that the Department feels the adoption of the bill without amendment in this connection would operate to increase the excess supply of cocaine available for illicit traffic.

EDITORIAL

E. G. EBERLE, EDITOR 10 West Chase St., BALTIMORE, MD.

PHARMACEUTICAL ASSOCIATION MEETINGS.

QUITE a number of annual Association meetings have been held, others will follow in succeeding months. The topics of discussion are influenced by the conditions of pharmacy, the drug business and the progress of developments. State associations and national organizations depend for their success on the loyalty and support of the individuals comprising them—no single group can stand alone, and is helpless, in degree, without the support and coöperation of the others, and no permanent good can come to the people when one group or organization endeavors to control or destroy the others.

Liberty is taken in repeating what has been said in these columns before—there is need not only for a larger percentage membership of pharmacists in state associations but for greater activity and participation in the promotions of pharmacy. The strength of associations is in numbers, provided a majority take an active part and accept the decisions reached after thoughtful deliberations. This not only speaks for larger membership but for a working together to adjust pharmacy to changing conditions and seeking new ways and methods for service. Educational standards have been advanced through Association efforts, so also continued and beneficial results will follow well-directed coöperation in behalf of legislative matters that will serve the public and promote pharmacy.

Associations should become thoroughly acquainted with the opportunities afforded them by the House of Delegates, A. PH. A., and a re-reading of the able address by its Chairman at the Baltimore meeting is commended (May JOURNAL A. PH. A., pages 499–502). The House of Delegates provides a real federation of pharmaceutical interests, of which Dr. James H. Beal has said that it "is a real clearing house for pharmacy and affords the means whereby the state associations may, through their representatives, confer upon policies of common interest and also where the great national organizations of pharmacy may meet and coördinate their respective policies with each other and with the state societies."

Chairman R. L. Swain comments: "The House of Delegates thus constitutes a vital influence in pharmacy; its potential force is almost without limitation. It is the one place where state views may be given a national expression; where the problems affecting pharmacy in one state may be met with the forces which have resolved them in others; where diverse sectional views may be welded into a policy applicable to the needs of pharmacy everywhere. The House of Delegates affords an opportunity for the advancement of every pharmaceutical purpose. It is especially adapted to the needs and problems of individual pharmacists. It reaches out and touches his daily work. It provides the place where his hopes and ideals may be enlarged to embrace a national outlook."

It is hoped that the delegates who attended the Baltimore meeting will impress the members of their respective associations with the importance of this body and also bring to the attention of their memberships the resolutions of the House of Delegates, printed in the May JOURNAL A. PH. A., pages 522–526. Most

of them are of interest to all Associations and are subjects for profitable discussion.

In the pharmaceutical and drug-trade activities there are always problems to be solved and situations to be met which require the study of all concerned; unless the mutual relations are given consideration there can be no successful outcome. There must be recognition of common interests of manufacturers, wholesalers and retailers.

THE HOSPITAL PHARMACY AND THE PHARMACIST.

EVERY pharmacist is interested, or should be, in the management of hospitals and, because of his professional relation, in the pharmacies and dispensaries of hospitals, and also because of his family and his patrons. The reason for pharmacy legislation is largely because of the preparation of medicines and the dispensing of them by pharmacists, and the same regulations, in a related way, should obtain in the pharmacies of hospitals.

There is a growing interest on the part of physicians in that division of the hospital, because the results of their work depend in a measure on the service the pharmacists render. The progress of medicine depends on coöperation of its several divisions, and due recognition of all who have a part in it. Quoting the *Journal of the American Medical Association* of a year or more ago—"In its work with hospitals it is the desire of the Council on Medical Education and Hospitals to cooperate in every way possible for the improvement of hospital service, whereby sick or injured people may be provided with the best possible care." Prompted by that desire the Council has outlined essentials for hospitals. These are excellent, but the qualifications of the hospital pharmacists and of the hospital pharmacies should receive due consideration. Steps to that end are being taken and that is a reason for this comment, so pharmacists may become interested and give whatever aid and counsel is possible, not only because a service is rendered, but because such participation advances pharmacy.

Phoebe Miller Kandel, Director, Nursing Education Department of Public Welfare, Lincoln, Nebraska, is author of a valuable book on "Hospital Economics for Nurses," published by Harper & Brothers. In it a chapter is given to "The Pharmacy;" the following is quoted:

> **"The Personnel of the Pharmacy.**—The personnel of the pharmacy should include a registered pharmacist, a registered assistant pharmacist and as many attendants as the pharmacist in charge feels he needs. The number of the personnel depends upon the demand of the hospital, the location of the ward drug rooms, and the system established for the transportation of the drugs and other supplies.
>
> "In some of the hospitals of the United States that have accredited schools of nursing connected with them, a student nurse is assigned to the drug room for one or two months. It is thought that this experience is valuable if the work is organized and directed by a registered pharmacist, so that the student will be instructed and supervised in the preparation of solutions and weighing and measuring of drugs."

The foregoing shows the importance and at the same time, perhaps, an opportunity of systematizing pharmacies, so that there may be greater uniformity in the management of this important department.

We are also quoting the concluding article relating to "Suggestions for Managing the Pharmacy" from the recent volume, "Modern Hospital Year Book:"

"Because of the vital importance of the pharmacy in emergencies, it should be kept continuously open. The function of the pharmacy as an adjunctive aid to the physician and to the surgeon makes it one of the most essential departments of the hospital. It takes its place with other staff services in the training of pupil nurses. Because its interrelationships with all other hospital departments are so intimate, the pharmacy (even though it be supervised by a competent and experienced pharmacist) deserves a considerable share of the time and attention of every hospital superintendent."

The following is from an article in the *Journal A. M. A.*, April 26, 1930, by our fellow member, William Gray, Pharmacist in Presbyterian Hospital, Chicago:

"The work of the hospital pharmacist differs materially from that of the pharmacist in the retail drug store. To the hospital pharmacist the most important part of his work is service, while the pharmacist in a drug store is more interested in sales. The hospital pharmacist must keep in close touch with the advances in professional pharmacy and be acquainted with new remedies as they come into use as well as with pharmaceutical progress in general. He must always stand ready to coöperate efficiently with the medical staff of the hospital, and he must be able to suggest officially recognized and tested medicines as against more expensive proprietary or branded products. This necessitate shaving at hand the most complete information available, in such standards as the United States Pharmacopœia, the National Formulary and New and Nonofficial Remedies."

A coöperative interest in this important subject by pharmacists and physicians will be helpful and a service will be rendered both groups and those who are served be them. We are encouraged by what is being done, as indicated by the foregoing comments, because of the greater opportunities and the evident interest.

COMMENCEMENT MONTH.

JUNE is commencement month—young men and women commence their activities in public, professional and business life; they assume responsibilities for which their studies during previous years have prepared them. The young pharmacists among them have been taught the essentials of the drug business and the importance of pharmacy as the foundation of it; the problems and opportunities confronting them require that they put into practice their belief and faith in pharmacy, and we express the hope that sons and daughters of the respective "Alma Maters" will always be loyal to the institutions from which they have received their credentials.

Nearness to publication date will not permit of extended references to schools of pharmacy that apply to the statement in the foregoing paragraph, but it is pleasing to note that three of the honor men of the graduating class of the Medical Department of the University of Maryland, are graduates of its Pharmacy School. Two veteran alumni, brothers, Charles C. and Henry G. Drueding, generously furnished a room for Museum purposes in the Philadelphia College of Pharmacy and Science. The bequest of Mrs. Harriet J. Bradbury to Massachusetts College of Pharmacy of one million dollars provides income for maintenance and makes provision for research and post-graduate work.

We hope in a succeeding issue to make mention of a number of institutions who have given prize memberships in the AMERICAN PHARMACEUTICAL ASSOCIATION.

SCIENTIFIC SECTION

THALLIUM POISONING IN SHEEP.*

BY JUSTUS C. WARD.[1]

Since its introduction into this country in proprietary rat poisons about 1920, the use of thallium as a lethal agent for the control of noxious rodents has greatly increased. The Bureau of Biological Survey, of the United States Department of Agriculture, has investigated the application of this substance to the control of such animals as prairie dogs, ground squirrels, rats, mice and other rodents of economic importance. James C. Munch, consulting pharmacologist of the Bureau, worked out the minimum lethal doses for thallium, as the sulphate, for rats and rabbits (1). In this author's review of the literature, it is noted that there is no reference to the toxicity of thallium to sheep.

This factor became of primary importance during the past year because of the fact that sheep losses were occurring on areas that had been treated with thallium-poisoned grain for the control of prairie dogs. Suspicion was immediately directed toward the thallium. Accordingly, an experiment was undertaken jointly by the Control Methods Research Laboratory of the Biological Survey and the Department of Veterinary Pathology of the Colorado Agricultural College to determine the minimum lethal dose (M. L. D.), the minimum toxic dose (M. T. D.), the ease of detection of thallium in sheep viscera and the degree of acceptance the sheep showed for thallium-poisoned prairie-dog bait. This experiment was conducted at the Veterinary Feed Lots of the Agricultural College, Fort Collins, Colo.

Definite information on the subject being lacking, it was assumed that the M. L. D. would be approximately 25 mg./Kg., and doses of 10, 20, 25, 30, 40 mg./Kg. were chosen for the first five sheep to be fed.

The sheep were penned on October 7th, and given no feed for 24 hours. At the end of that time, the animals were offered the poisoned grain, but they absolutely refused to touch it. Another twenty-four-hour starvation period followed, then the animals were again offered the doses of poisoned prairie-dog bait. Table I shows how reluctant the animals were to eat the poison. From these results it is readily seen that the acceptance of thallium-poisoned grain by sheep is indeed very poor. When an animal that has been starved forty-eight hours will consistently refuse a grain treated with thallium, while at the same time it takes the same kind of grain that has not been treated, one has reason to assume that the poisoned material would not be picked up under normal conditions.

Results of the feeding tests are tabulated in Table II. It is readily seen that the M. L. D. will fall very close to 25 mg./Kg., as the sheep dying with a dosage of 24.10 succumbed on the ninth day after being fed.

It is also seen that toxic symptoms, as expressed by alopecia, were observed from the dosages of the range from 8.00 to 10.00 mg./Kg.; while no effect

* Scientific Section, A. PH. A., Baltimore meeting, 1930.

[1] Associate Pharmacologist, Control Methods, Research Division of Predatory Animal and Rodent Control, Bureau of Biological Survey, U. S. Department of Agriculture.

was noticed in animals receiving doses in the range of 3 mg./Kg. downward.

It is unfortunate that gaps from 10 to 24 mg./Kg., and from 3 to 8 mg./Kg. were necessary, but lack of a sufficient number of animals for experimental purposes made that imperative. When occasion demands, an effort will be made to obtain tests of M. L. D. and M. T. D. for those ranges.

The symptoms of thallium poisoning in sheep follow very closely those described for other test animals, first appearing in about 36 to 48 hours. The symptoms consist of marked champing of the teeth, loss of appetite, general dejection and diarrhea, with the feces mixed with mucous. This mucous was of high viscosity and very stringy. A discharge from the nose was also observed in most cases. This was also of high viscosity, the strings hanging almost to the ground at times. Repeated stretching, as if muscular cramping was experienced in the hind legs, was also an early symptom. Loss of accommodation and ability to control posterior regions developed, and the sheep acquired a wabbly gait before going down. A period of coma preceded death—which was appparently due to respiratory failure.

Chemical examinations of the internal organs from the sheep No. 86, No Tag and No. 31 were made. (Table III.) The most marked test in each case came from the liver. It is noticed that in one case of early death (4 days) there was enough thallium left in the stomach lining to give a qualitative test; while in delayed death (9 days) all the poison had left the stomach and had become localized in the liver and kidneys.

No thallium could be demonstrated in viscera obtained from the sheep dying on the areas poisoned for prairie dogs.

Post-mortem findings on the sheep of the experiment showed:

Signs of gastro-enteritis were present in fourth stomach and duodenum: the kidneys were congested and showed degeneration upon microscopic examination. The brain, lungs, heart, sex organs and large intestine showed no pathological conditions, although effects are usually reported on heart and sex organs.

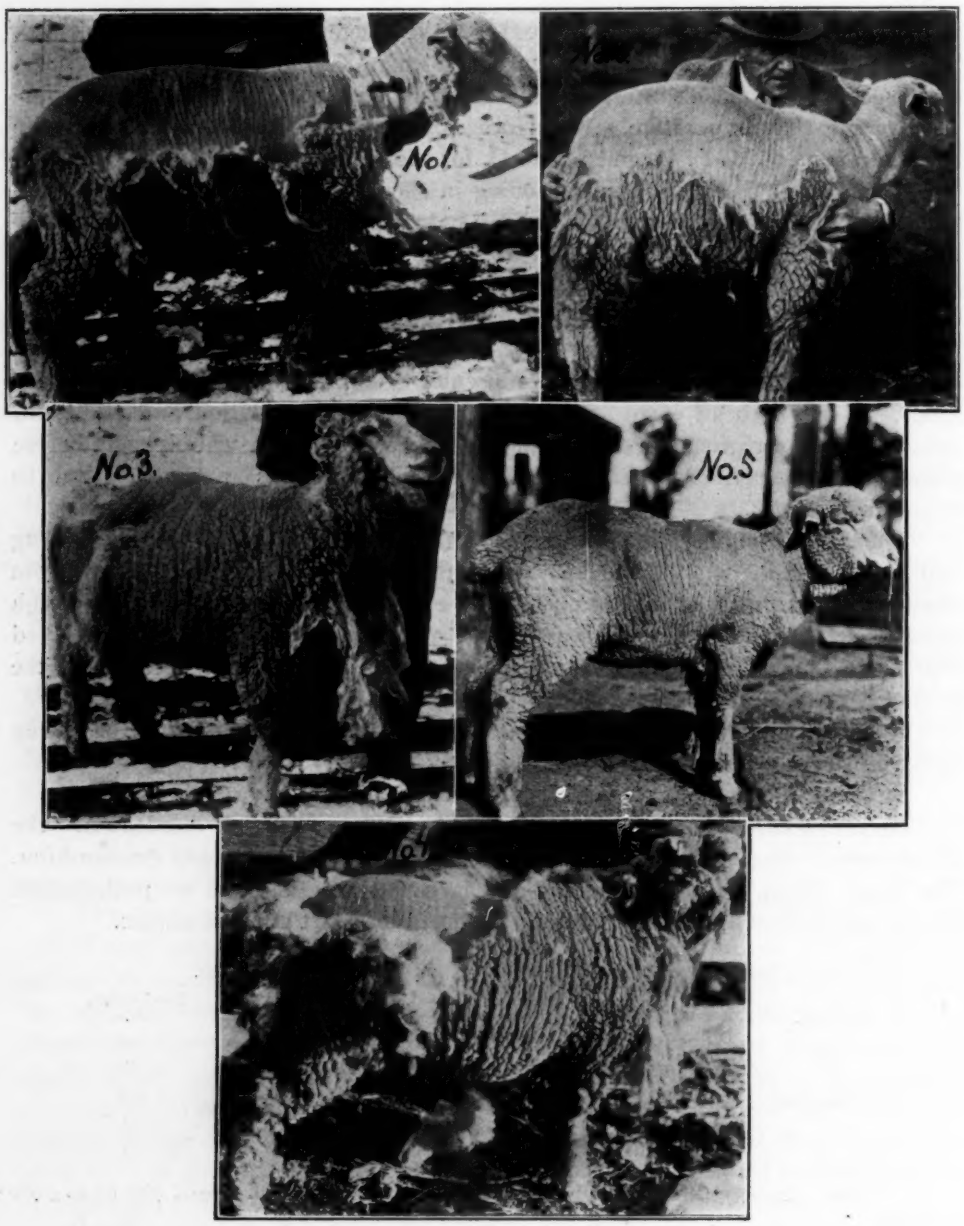
TABLE I.—ACCEPTANCE OF PRAIRIE-DOG POISON BY SHEEP.

Ear Tag.	Weight in lbs.	Poisoned oats fed, ounces.	Time fed, A.M.	Food eaten, P.M.
86	91.5	5.82	11.00	5.00[1]
37	108.0	4.35	11.00	5.00
No Tag	86.0	3.65	11.00	5.00[1]
31	83.0	2.92	11.00	5.00
100	103.0	1.45	11.00	11.30

[1] These animals refused to clean up the poisoned grain until it was mixed with clean grain and salt.

TABLE II.—M. L. D. AND M. T. D. OF THALLIUM TO SHEEP.

Ear Tag.	Mg./Kg.	Results.
86	43.70	Died in four days
37	27.80	Died in seven days
No Tag	26.20	Died in four days
31	24.10	Died in nine days
100	9.72	Survived—wool started slipping on twentieth day
		Series two.
142	8.15	Survived—wool started slipping on fourteenth day
248	3.18	Survived—no symptoms



No. 1.—Sheep No. 100, six weeks after being fed.

No. 2.—Sheep No. 100, ten weeks after being fed.

Nos. 3. and 4.—Sheep No. 142, three weeks after being fed.

No. 5.—Sheep No Tag, one day before death.

TABLE III.—DISTRIBUTION OF THALLIUM IN VISCERA.

Ear Tag.	Stomach.	Liver.	Kidney.
86, 4 days	+	++	+
No Tag, 4 days	+?	++	+
31, 9 days	−	+	+

CONCLUSIONS.

1. The M. L. D. of thallium for sheep is about 25 mg./Kg.
2. Sheep will not readily accept thallium-poisoned rolled oats.
3. Thallium poisoning causes alopecia in sublethal doses down to 8 mg./Kg.
4. History of poisoning follows that of other test animals.
5. Thallium can be readily isolated from liver and kidneys of sheep killed by this poison.
6. Post-mortem findings show areas of irritation in fourth stomach and duodenum together with kidney degeneration.
7. Death in most cases is apparently due to respiratory failure.

ABSTRACT OF DISCUSSION.

Dr. M. I. Smith asked if pulmonary hemorrhages developed. William T. McClosky pointed out that thallium was dangerous to handle, because of the chronic toxicity and the lack of a definite antidote.

In reply, James C. Munch stated that this work had been undertaken in connection with the use of thallium on a large scale by the Bureau of Biological Survey for the control of certain rodents and predatory animals. When properly used by experienced men, toxic symptoms had not been produced. However, where sufficient care is not taken the drug is very dangerous and should not be used by persons who are not experienced in the method of handling it. Post-mortem examinations had shown hemorrhage in the lungs. Ward had demonstrated the distribution of thallium throughout the entire body when sufficiently large doses were given. He commented on the fact that the lethal dose of 25 mg./Kg. was essentially the same for sheep, rats and rabbits. Furthermore, the dose of 8 mg./Kg. which caused loss of hair in sheep was essentially identical with the dose used for depilation in humans.

ACKNOWLEDGMENTS.

To Dr. Newsom, Head of Department of Veterinary Pathology at the Colorado Agricultural College, and to Dr. Jule Loftus of that institution, I owe sincere appreciation for their earnest coöperation in these studies. To Dr. Newsom, I am indebted for the experimental animals used as well as for accommodations for performing the experiment. To Dr. Loftus I owe the post-mortem commentaries and historical observations.

Thanks are also due to Mr. Green of the Colorado Operations Office and to Mr. Garlough of the Control Methods Research, both of U. S. Bureau of Biological Survey, for their interest and help in taking pictures and in constructive comments upon the investigations.

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(1) James C. Munch, JOUR. A. PH. A., 17 (1928), No. 11.

LIGHT AND MEDICINES.

In the *Scientific Monthly* for June, H. V. Arny writes on the above subject. He refers to the reports of the Committee on Glass Standardization and Relation of Glass to the Preservation of Pharmaceutical Preparations (JOUR. A. PH. A., 17 (1928), 1056). The article is concluded with the hope, "where light is clearly proved to be the destructive factor, to discover in each case the appropriate 'stabilizer,' that appropriate chemical, a trace of which may aid the medicament in resisting the untoward action of light rays."

Fig. 1.—Roots substituted for Lily of the Valley. 1/2 natural size.

LILY OF THE VALLEY ROOT.

BY HOWARD H. CROSBIE.

Recently there has been admitted into the country and offered for sale as Convallaria N. F. V, a substitute which one can see at a glance is not genuine (Fig. 1). This substitute has approximately four-fifths of the action of the genuine article when tested by the One-Hour Frog Method. We can dismiss this without further comment except that should anyone wish to follow up this subject it may be a useful hint that in the changing nomenclature of botany one of the False Soloman Seal plants once rejoiced in the name of Convallaria.

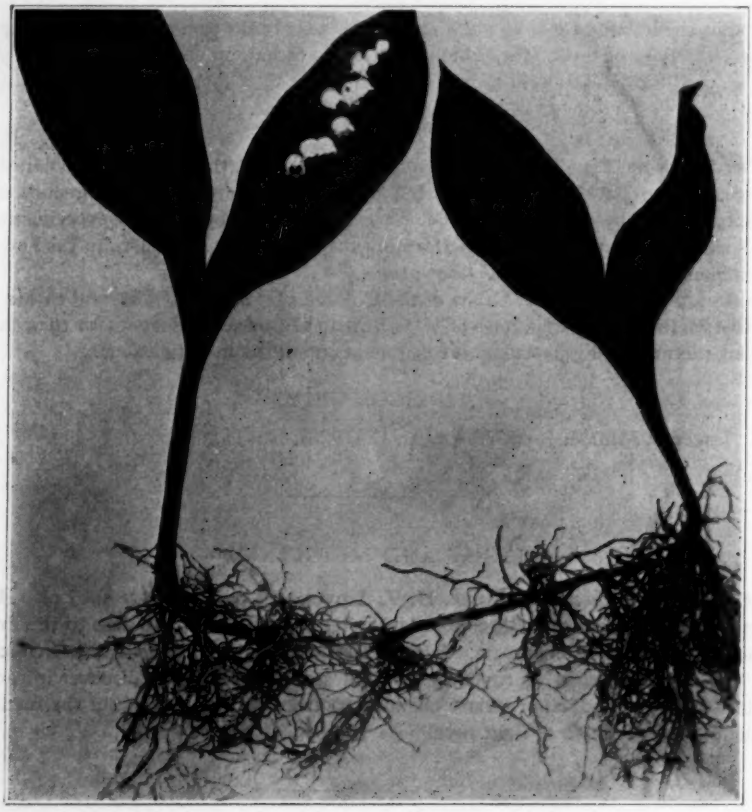

Fig. 2.—Lily of the Valley. 1/2 natural size.

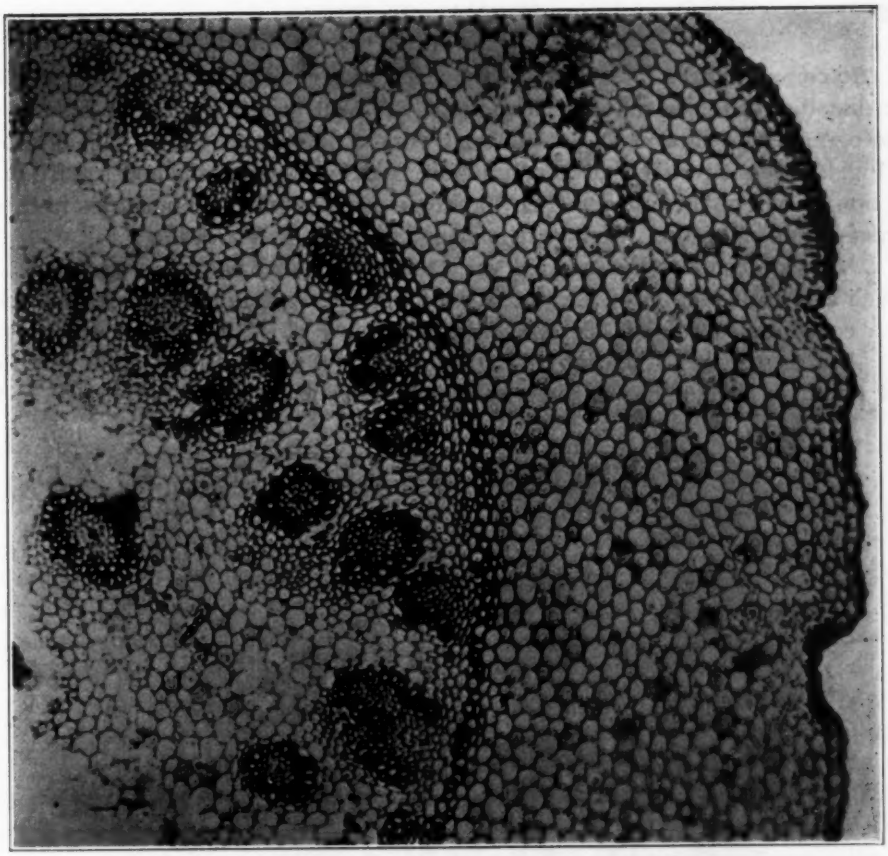

Fig. 4.—Rhizome of Lily of the Valley. Cross section: 80 diameters.

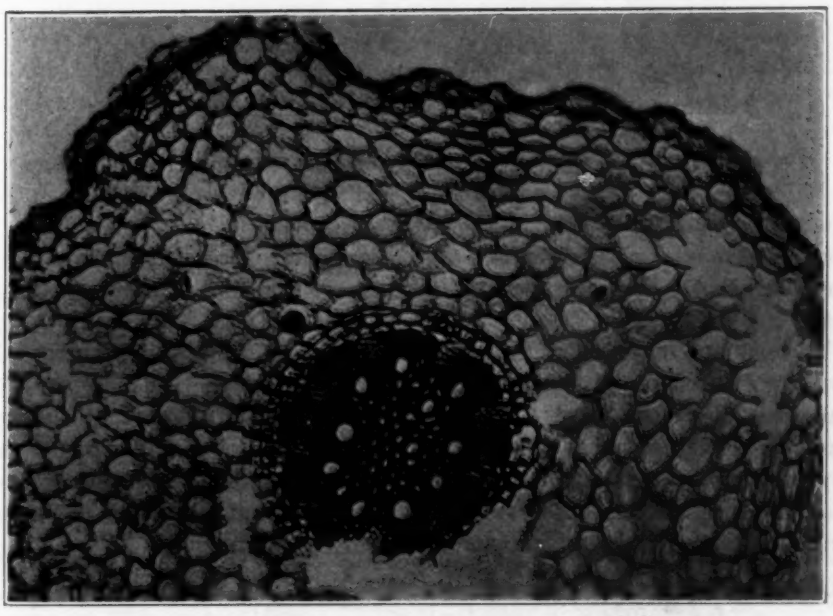

Fig. 5.—Root of Lily of the Valley. Cross section: 80 diameters.

In comparing the roots of true Lily of the Valley with the N. F. V description, we find discrepancies that should not be. A wild growing plant in bloom was photographed to show that the material worked on was genuine. This is shown in Fig. 2. It is obvious that there are more than five roots at the nodes and a cross section at one of these nodes (Fig. 3) shows that the roots do not arise from the underside only; both of these facts contradict the N. F. V wording.

When we come to the internal structure, we see that photomicrograph No. 4, which is a cross section of the internode of the rhizome, fails to reveal any trace of a collenchymatous hypodermis which according to N. F. V is characteristic.

A cross section of the root (Fig. 5) shows that the endodermis of the root does not resemble that of the rhizome as stated; they are entirely different. In the

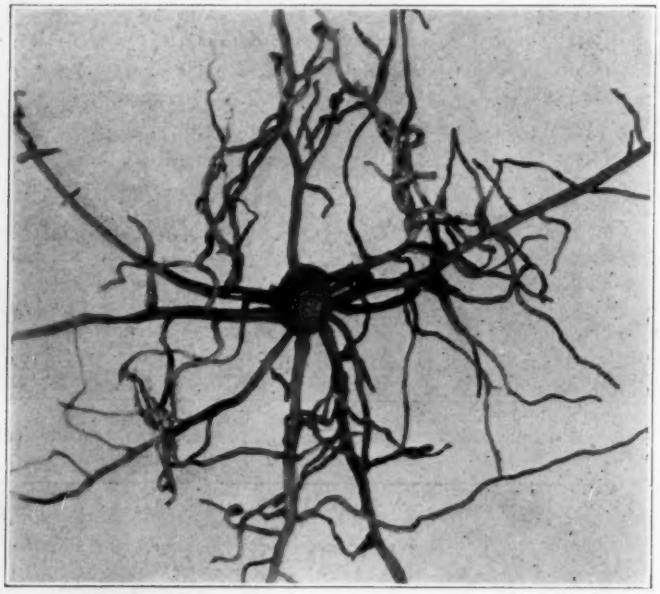

Fig. 3.—Lily of the Valley: Rhizome at the node, showing disposition and number of the roots. Natural size.

rhizome the endodermis is composed of "beaker cells" thickened on three sides and strongly lignified, whereas in the root the cells are thin walled and show Casparian Spots.

There is one other point that should be raised; the photomicrograph No. 5 shows a poly-arch radial structure to the stele. Now the N. F. V says "fibro-vascular bundles mostly five." Not to raise the point of number, this expression is surely a very bad misfit. Who can say which phloem patch belongs to a particular xylem bundle—that on the right, or that on the left? We must consider the stele as one mestome strand of poly-arch structure, and it is wiser not to be too definite about the number of component rays.

LABORATORIES OF SHARP & DOHME,
May 22, 1930.

THE U. S. P. STROPHANTHUS STANDARD.*

BY L. W. ROWE.[1]

About the time the U. S. P. X became official there was a period of several years during which for some unknown reason it was difficult, in fact almost impossible, to obtain Kombé Strophanthus Seed containing the usual high degree of activity. This fact worked a hardship upon the manufacturers and was probably partly responsible for a severe criticism of the U. S. P. standard by Burn and Trevan (1). Much of the weight of this criticism was lost, when it was pointed out by Edmunds, Lovell and Braden (2) that Burn and Trevan did not use the official One-Hour Frog Method or even the kind of frogs specified in the official method. There can be no direct relationship assumed between Ouabain (the standard) and Tr. Strophanthus when tested by different methods, even though the methods are related.

The official Strophanthus standard, in which, with the One-Hour technique, 1 cc. of Tr. Strophanthus should be equivalent to 8.3 mg. of U. S. P. Ouabain, is without doubt a high standard but a large part of the trouble is with the method itself. One hour is an insufficient period of time for the complete absorption and action of either Strophanthus or Digitalis and the systolic standstill is only achieved by an excess of drug. Even then the results are very erratic due to the variable rate of absorption and action which is inherent in the individual frogs. Where an M. L. D. method is employed with a period of six hours at 20° C. between dosing and reading results, the end-point in the reaction is much more definite and the time factor provides for complete absorption and *action* of the drug in the great majority of the test animals. Longer periods of time than six hours were only necessary when temperature was not controlled and absorption was very slow at the low water temperatures which were common in the winter. The adoption by the International Conference in 1928 of a Four-Hour M. L. D. Frog Method as one of several methods for Strophanthus and Digitalis assay was a real advance, but for complete action of *Digitalis* even at 20° C. a six-hour period is much better than four and scarcely gives time enough for a frog to die when not dosed, which was one of the objections and criticisms raised against the Twelve to Twenty-Four Hour M. L. D. time period.

It has been stated that according to the U. S. P. One-Hour Frog Method 1 cc. of standard Tr. Strophanthus should be equivalent to 8.3 mg. of standard Ouabain. I have conducted a great many tests of U. S. P. Ouabain and of Tinctures of Strophanthus by the official method and always have difficulty in interpreting results as well as getting the M. S. D. of Ouabain anywhere near the figure (0.0000005 Gm.) set as a standard in the Pharmacopœia. In four years of testing, only once or twice have I observed the M. S. D. of Ouabain at the standard figure and more often it is near 7 or 8. Very recently in testing a Tr. Strophanthus, which was 100% by the M. L. D. Frog Method, I called the M. S. D. of standard Ouabain 0.00000070 Gm. per Gm. on results like these: 2 fives beating and 1 questionable, 2 sixes beating, 2 questionable and 1 stopped; 3 sevens stopped and one questionable; 1 eight stopped, 1 beating and 1 questionable, and

* Scientific Section, A. PH. A., Baltimore meeting, 1930.

[1] Research Laboratories, Parke, Davis and Company, Detroit, Michigan.

the M. S. D. of the Tincture was 0.00008 cc. to 0.00009 cc. on these results; 1 five stopped; 2 sixes beating and 1 questionable; 3 sevens beating and 1 stopped; 2 eights stopped, 2 questionable and 1 beating; 2 nines stopped. This test gave an equivalence such that 1 cc. of the 100% Tincture corresponded to about 8 mg. of Ouabain but it was a very unsatisfactory test and is merely one illustration of the difficulty one meets in applying the official test even to Strophanthus preparations in spite of considerable experience with it.

By the M. L. D. Frog Heart Method, 1 cc. of standard Tr. Strophanthus should be equivalent to only 6.67 mg. of standard Ouabain. This figure is derived from the fact that U. S. P. Ouabain in frequent tests shows an activity of 200,000 Heart Tonic Units (3) per Gm., while standard Tr. Strophanthus U. S. P. contains 1333 H. T. U. per cc. One gram of Ouabain is therefore equivalent to 150 cc. of Tr. Strophanthus and 1 cc. of the latter is equivalent to 6.67 mg. of Ouabain. Thus due to the differences of the two methods there is a relative difference of 20% less or 25% more between the two Ouabain equivalents.

By the Cat Method less data is available but the M. L. D. of U. S. P. X Ouabain in a good test on 5 cats was found to be 0.097 mg. per Kg. with an extreme variation between the highest and lowest result of only 28%. In a second test more than a year later an average M. L. D. of 0.105 mg. per Kg. was found. This agrees very well with Dr. Edmunds' result of 0.103 mg. per Kg.; (2) and both these results are quite different from that reported by Dr. Burn of 0.061 mg. per Kg. (1). Such great variations in the test of the same substance by experienced men can only reflect great discredit upon the Cat Method as a quantitative assay method of digitalis and strophanthus. For a U. S. P. standard Tr. Strophanthus one careful test on four animals gave an M. L. D. of 0.027 cc. per Kg. Using 0.027 cc. per Kg. as the M. L. D. of Tr. Strophanthus and 0.097 mg. per Kg. as the M. L. D. of standard Ouabain, then 1 cc. of Tr. Strophanthus is equivalent to 3.6 mg. of Ouabain.

By the three methods we thus have the following equivalents for two standard products based on experimental averages and adopted standards.

One-Hour Frog Method (U. S. P.)	1 cc. Tr. Strophanthus equivalent to 8.3 mg. Ouabain
M. L. D. Frog Heart Method (Houghton)	1 cc. Tr. Strophanthus equivalent to 6.7 mg. Ouabain
Cat Method (Modified Hatcher)	1 cc. Tr. Strophanthus equivalent to 3.6 mg. Ouabain

The figure for the Cat Method may be low due to insufficient data but Hatcher found that 1 cc. Tr. Strophanthus should be equivalent to 3.0 mg. Ouabain and Edmunds found about 5.0 mg. Dr. Burn found an average of 3.46 mg. for six tinctures and on that basis criticized the U. S. P. standard as being abnormally high. Actually a result of 4.0 mg. by the Cat Method probably corresponds very closely to the 8.3 mg. by the U. S. P. One-Hour Method and Dr. Burn's results indicated a good quality of Tr. Strophanthus on the British market rather than a 50% quality. As for Dr. Trevan's low result on two tinctures of Dr. Burn's series employing an M. L. D. Frog Method, the use of a different species of frogs must have been partly responsible.

Having shown that the Ouabain equivalents of a U. S. P. Tr. Strophanthus will vary widely by the three types of methods as represented by the One-Hour Frog Method, the M. L. D. Frog Method and the Cat Method, and having given

the equivalents for the several methods, data will now be submitted to show that the present U. S. P. standard is high and that a reduction is advisable in the next Pharmacopœia. Also a change in the official method of testing is recommended.

In 1928 we tested seven different samples of Kombé Strophanthus Seed as U. S. P. tinctures, which represented drug available for purchase. Of these, five were equal to or better than the U. S. P. requirement which had been impossible to meet for several years previous to 1928, except by the use of an excess of sub-standard drug.

Sample.	Ouabain equivalent, M. L. D. Frog Method.	U. S. P. standard.
No. 800921	1 cc. Tr. = 2.0 mg.	30%
No. 317912	1 cc. Tr. = 3.0 mg.	45%
No. 915	1 cc. Tr. = 6.7 mg.	100%
"B"	1 cc. Tr. = 6.7 mg.	100%
No. 320580	1 cc. Tr. = 7.5 mg.	110%
No. 808882	1 cc. Tr. = 6.7 mg.	100%
No. 1506	1 cc. Tr. = 6.7 mg.	100%

In 1929 we also tested seven lots of crude drug and results were uniformly lower although not so low as to be alarming except in one case, which, of course, it was unnecessary to use.

Sample.	Ouabain equivalent, M. L. D. Frog Method.	U. S. P. standard.
S. & N.	1 cc. = 5.5 mg.	85%
O. S. C	1 cc. = 5.5 mg.	85%
B.	1 cc. = 4.5 mg.	70%
B. & S.	1 cc. = 5.0 mg.	75%
W. & H.	1 cc. = 5.5 mg.	85%
M. & D.	1 cc. = 0.6 mg.	10%
326624	1 cc. = 4.5 mg.	70%

The results in 1928 show an average activity of 84%, and for 1929, excluding the very low 10%, an average of 78% of standard.

It would seem possible, therefore, to meet a standard 25% lower than the present one with drug available during the past two years. Furthermore, a 25% reduction would then make 1 cc. of standard Tr. Strophanthus equivalent to 5.0 mg. of U. S. P. Ouabain by the M. L. D. Frog Method, to about 3.0 mg. by the Cat Method and to 6.25 mg. by the One-Hour Frog Method.

SUMMARY AND CONCLUSIONS.

1. It is shown by summarized experimental data covering many years that the Ouabain equivalents of a standard U. S. P. Tr. Strophanthus should be quite different by different bio-assay methods. One cc. of Tincture should probably be equivalent to 8.3 mg. Ouabain by the official One-Hour Method; to 6.7 mg. Ouabain by the M. L. D. Frog Heart Method; and to only 4.0 mg. Ouabain by the Cat Method.

2. The present U. S. P. standard is high and it is suggested that it be reduced 25% in the next revision so that 1 cc. of Tr. is equivalent to 5.0 mg. Ouabain by the M. L. D. Frog Method; to 3.0 mg. Ouabain by the Cat Method; and to 6.25 mg. Ouabain by the present One-Hour Frog Method.

3. Ouabain appears to be a suitable standard for Strophanthus assay because it has the same rate of absorption and type of action. It is, however, definitely unsuitable as a standard for Digitalis (4) and Squill assay.

4. The present U. S. P. method (One-Hour Frog) is unsatisfactory even for Strophanthus. One hour is possibly sufficient time for absorption of a small dose of a Strophanthus dilution, but is not sufficient for complete *action* and the necessary excess causes erratic results due to individual variations in reaction. An M. L. D. Frog Method overcomes these objections and at a temperature of about 20° C., six hours is a suitable time limit for both Strophanthus and Digitalis. A Six-Hour M. L. D. Frog Method is therefore suggested for consideration for the next U. S. P. in place of the present One-Hour Frog Method.

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PHARMACOLOGICAL NOTE ON PARAFFIN, LANOLIN, BEESWAX, PETROLATUM AND CETACEUM.*

BY DAVID I. MACHT.

INTRODUCTORY.

It is well known to all those having acquaintance with pharmacology that slight changes in the chemical composition of various substances, and more particularly of powerful drugs such as many of the alkaloids, hormones, etc., can be more easily detected by means of pharmacodynamic examination than by any ordinary physicochemical method; indeed, in some cases no physicochemical method is at present available for distinguishing between various substances closely related, and yet such substances may exhibit marked differences in their biological effects. Thus, for instance, Abel and his co-workers have been able to detect extremely minute quantities of an active pituitary principle in dilutions which could not be measured by ordinary chemical means (1). Again, Hatcher and his collaborators have found that they could detect traces of strychnine very readily by biological methods, whereas a quantitative chemical determination with the minute amounts present was out of the question (2). In the same way, Macht and Anderson were able to distinguish changes produced in certain drugs by polarized light by biological methods very much more readily than by physicochemical means (3).

With the development of phytopharmacological methods in studying drugs and chemicals, introduced by the present writer (4) it has been repeatedly shown that by means of living plant seedlings or tests on living plant protoplasm, minute quantities of powerful pharmacological principles can be detected now which could not hitherto be detected by older zoöpharmacological tests. This was found to be especially true for active principles elaborated by animals. Thus, Macht

* Pharmacological Research Laboratory, Hynson, Westcott & Dunning, Baltimore.

and his co-workers have been able to demonstrate, by means of phytopharmacology the presence of a toxin in the blood and secretions of menstruating women (5), the presence of other toxins in the blood and spinal fluid of pernicious anemia (6), and the discovery, for the first time, of an etiological noxious agent in the blood serum of pemphigus (7). It was furthermore found by the present writer that, in general, drugs or chemicals of zoögenic origin, that is, obtained from animals, are more toxic for living plants than drugs of phytogenic origin, or substances obtained from plants, are for the same living seedlings (8). Thus, for instance, epinephrine, an animal product, is much more toxic for plant protoplasm than "vegetable adrenalin," or ephedrine (9). Again, minute quantities of cantharidin, obtained from the Spanish fly, are much more toxic for plant protoplasm than ricin, a very deadly poison for animals, which is obtained from the castor oil bean (10). Recently, the author has been able to distinguish between aqueous or saline extracts of *Carbo ligni*, on the one hand, and *Carbo animalis purificatus*, on the other, by means of phytopharmacological methods because of the presence of minute quantities of animal products in the latter which are not present in wood charcoal (11). These observations suggested the present brief study.

MATERIAL AND METHOD OF STUDY.

The following substances, extensively employed in pharmaceutical work as bases for preparation of ointments and other medicinals, were obtained in the purest form available and studied by phytopharmacological means: (1) pure white paraffin, a substance of mineral origin; (2) *Cera alba* and (3) *Cera flava*, or white and yellow beeswax, products elaborated by the honey bee; (4) *Cetaceum* or spermaceti, a substance obtained from the sperm whale; (5) lanolin, or *Adeps lanae hydrosus*, or wool fat, a fat of animal origin; (6) white petrolatum, or petroleum jelly, and (7) yellow petrolatum, or petroleum jelly; (8) white vaseline and (9) yellow vaseline. It was thought that perhaps saline extracts of these very slightly soluble drugs might show a difference in phytopharmacological effect when carefully studied by special methods developed by the author.

The method of experimentation was very simple. A small quantity of each of the substances was boiled for a few minutes in a solution of equal parts of Shive and distilled water. After cooling, the solution was filtered to remove all of the fat, and the filtrate was employed as a plant physiological solution for the growth of the seedlings of *Lupinus albus*, as described by the author's special methods (12). Growth in such extracts of the fats was compared with controls immersed in normal solution of Shive and distilled water mixed in equal proportions.

RESULTS.

The results obtained are exhibited in the subjoined table. It will be noted that the various extracts differed in the degree of inhibition of the growth of seedlings. Some of them gave an index of from 85 to 90 per cent, whereas others gave a coefficient of growth below 70 per cent. It is interesting to note that in each case the more toxic effect for the growth of Lupinus albus seedlings was produced by the extracts obtained from beeswax, spermaceti and lanolin, all of which are *animal products*. On the other hand, paraffin and the petroleum jellies were very little toxic for the plant protoplasm. It is interesting to note that the

figures obtained for white and yellow petrolatum, or petroleum jelly, on the one hand, and white and yellow vaseline, on the other, were identical. Furthermore no marked difference was observed between the yellow and white varieties of petrolatum, vaseline or beeswax by the phytopharmacological tests. The author has shown elsewhere that oxycholesterin, even in minutest quantity, is very toxic for plant protoplasm. In view of the presence of oxycholesterin and its derivatives in wool fat, the toxicity of lanolin can be explained. The hydrogen-ion concentration of all the solutions was determined by the potentiometer and the figures obtained were practically identical with that of the control and certainly not sufficient to account for the difference in the phytotoxicity. The present investigation gives further support to the extensive observations of the writer and his collaborators in regard to the greater sensitivity of plant protoplasm to animal poisons.

TABLE I.

	Index of growth.		Index of growth.		Index of growth.
1. Paraffinum.....	85%	4. Cetaceum.....	69%	7. Lanolin.....	68%
2. Cera alba.....	67%	5. White petrolatum.	88%	8. White vaseline....	88%
3. Cera flava.....	68%	6. Yellow petrolatum	91%	9. Yellow vaseline...	91%

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METHYLENE BLUE U. S. P. AS PRECIPITANT OF IRISH MOSS.*

BY GEORGE E. ÉWE.

When a solution of methylene blue U. S. P. is added to a decoction of Irish moss dark blue insoluble clots are formed.

The writer is unable to find mention of this fact in the literature, and since the known means of identifying the common gums, or distinguishing between them, are very meagre, it may be helpful to pharmacists to make known this action of methylene blue upon Irish moss, or emphasize it if it has already been noted and published elsewhere.

A solution of methylene blue precipitates a decoction of Irish moss whether the moss is previously washed with cold water or not; or whether the decoction of Irish moss is hot or cold. The dark blue clots are almost entirely insoluble in water, even at boiling temperature. When an excess of Irish moss decoction is added to

* Scientific Section, A. PH. A., Rapid City meeting, 1929. No discussion.

a solution of methylene blue the latter is practically entirely removed from solution, only a very pale purplish color being left in the liquid. A methylene blue solution does not precipitate an aqueous extract of the ash of Irish moss, nor does it precipitate a neutralized, hydrochloric acid extract of the ash. The ash of Irish moss was found to contain much silica and sodium, some potassium, a little iron, more aluminum than iron, much calcium and some magnesium. It would seem that this action of methylene blue is concerned with the organic portion of the moss.

When 25 cc. of a decoction of Irish moss assaying 0.105 Gm. of dry extractive was titrated at room temperature with a 0.5% aqueous solution of methylene blue, between 0.120 and 0.125 Gm. of methylene blue was required for complete precipitation of the extractive. On this basis, 1 Gm. of dry extractive of Irish moss would require about 1.17 Gm. of methylene blue for precipitation. When the above titration was conducted at boiling temperature 0.105 Gm. of dry extractive required between 0.135–0.137 Gm. of methylene blue for complete precipitation. The end-point of the titration is indicated by lack of a precipitate after allowing the titrated liquid to stand for 5 minutes after the addition of the methylene blue solution. The end-reaction is satisfactorily sharp, there being an immediate precipitate within 1 cc. of the end of the titration and a precipitate after 5 minutes within 0.5 cc. of the end-point.

The methylene blue used in these experiments assayed 0.52% ash, was free from zinc and other heavy metals and answered all U. S. P. requirements. Methylene blue solution precipitates mixtures of Irish moss and tragacanth, Irish moss and Indian gum and Irish moss and acacia, but the precipitate is occasioned solely by the presence of Irish moss, as methylene blue solution does not precipitate decoctions of tragacanth, Indian gum or acacia; nor does it precipitate gelatin. When Irish moss is precipitated in the presence of other gums the dark blue precipitate is in a finer state of subdivision than when plain decoction of Irish moss is precipitated.

Other colored substances capable of precipitating Irish moss were sought and only one was found. This was a purple "Coal tar" color offered for tablet coating purposes. The composition of this color was not determined but upon ignition it gave off a very disagreeable odor quite similar to that yielded by methylene blue upon ignition and the latter may have been a constituent of this color. The color was free from zinc and other metals except the usual traces of iron when tested by the U. S. P. method for methylene blue.

Fifteen certified "coal tar" food colors of various colors were tried and none was found capable of causing a precipitate in a decoction of Irish moss. Methyl orange, methyl red, brom-phenol blue, haematoxylon, brom-cresol purple, iodeosin, fluorescein, malachite green and tartrazine No. 94 also proved incapable of precipitating Irish moss. The ability of methylene blue to precipitate with a decoction of Irish moss suggests the possibility of employing methylene blue for the detection, or possibly the estimation, of Irish moss. Vice versa it may be possible to use Irish moss for the detection or estimation of methylene blue, or Irish moss may be of service in depleting a solution of methylene blue during analytical chemical procedures.

The abstraction of methylene blue from solution by Irish moss appears to be due to an adsorption action exerted by organic constituents of the moss by a

process analogous to "staining." It does not seem to be due to the formation of a "lake" as the term "lakes" is applied to a group of coloring substances which are salts of an animal or vegetable coloring matter united with a metal, generally aluminum or tin ("U. S. Disp.," 21st Ed.), and methylene blue shows no disposition to precipitate with aluminum salts such as the neutralized, hydrochloric acid extract of the ash of Irish moss, or aqueous solutions of aluminum sulphate or ammonium alum. Nevertheless, there is a possibility that the aluminum in Irish moss may be present in such form as to "lake" with methylene blue, so that this is an open question.

Because of the apparently strong adsorptive "attraction" between methylene blue and Irish moss an attempt was made to use an Irish moss decoction for removing methylene blue stains from the hands. However, the Irish moss proved less effective for this purpose than the detergent power of soap.

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CATALYTIC DEHYDROGENATION OF ISOPROPYL ALCOHOL.*

BY W. A. LOTT AND W. G. CHRISTIANSEN.

The dehydrogenation of isopropyl alcohol to form acetone is of practical im-

$$\begin{matrix} CH_3 \\ CH_3 \end{matrix}\!\!>\!HOH \rightleftharpoons \begin{matrix} CH_3 \\ CH_3 \end{matrix}\!\!>\!C = O + H_2$$

portance and can be used as a manufacturing process. Moreover, the behavior of alcohols at elevated temperatures in contact with various substances is of importance in studies relating to the production of ethylenic compounds. Padoa and Foresti (R. Atti, *Accad. dei Lincei* (5), 23, 11, 84) converted the alcohol into the ketone by the action of benzene in the presence of a Ni catalyst at 185° for 67 hours; 37% acetone and some cyclohexanol are formed. Meyer and Eckert (*Monatsh. f. Chem.*, 39, 241) have oxidized isopropyl alcohol to acetone in the presence of anthraquinone in the presence of light; and Wells, U. S. Patent 1,497,817 oxidizes secondary alcohols by atmospheric oxygen and steam in the presence of certain especially prepared metal and metal oxide surfaces. In French patent, 525,108 (1920), the claimants also oxidize the alcohol by atmospheric oxygen in the presence of copper catalyst at 500° C., with 75% yield.

Hara, Tohoru (*Memoirs. Coll. Science Engin. Imp. Univ. Tokyo Series A*, 9 (1926), 405), reports a simple dehydrogenation of isopropyl alcohol in the presence of reduced copper made in a special manner, at 230–330° C. Reduced copper made in other ways gave no reaction. British Patent 263,877 (1927) (addition to British Patent 262,120 (1927)) claims the phosphides, selenides, tellurides, antimonides, bismuthides and sulfides of heavy metals as catalysts which effect the dehydrogenation of isopropyl alcohol at 410° C. to acetone, giving a yield of over 80 per cent.

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* Scientific Section, A. PH. A., Rapid City meeting, 1929.

In this laboratory we have found that we can effect the practically quantitative conversion of isopropyl alcohol to acetone by passing isopropyl alcohol vapor through an iron furnace charged with crucible graphite broken up to 8-mesh size at a temperature of 400° C. This result is not in agreement with that of Trautz and Winkler (*J. prakt. Chem.*, 104 (1922), 53) who reported a practically quantitative dehydration of isopropyl alcohol to propylene by broken crucible graphite at 360–400° C.

The difference in these two results undoubtedly lies in a difference in the type of graphite. The crucible graphite used by us was furnished by the Dixon Crucible Co. and was made from the crystalline Ceylon graphite baked with clay. The graphite crucibles on the European market may be made of German black lead, which is an amorphous plumbago.

The different results obtained by Tohoru Hara with reduced copper from different sources and the differences obtained with graphite from different sources tend to emphasize the fact that the catalytic properties of solid surfaces depends on the pore structure of the material to a greater extent than it does on the chemical nature of the catalyst.

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BROOKLYN, NEW YORK.

Left.—R. J. B. Stanbury, Secretary, Canadian Pharmaceutical Association. Right.—M. R. MacFarlane, President, Canadian Pharmaceutical Association.—Both are members of the AMERICAN PHARMACEUTICAL ASSOCIATION and participated in the Proceedings of the convention in Baltimore and are looking forward to the joint meeting of the two associations in Canada, 1932.

BIBLIOGRAPHY OF PHARMACEUTICAL RESEARCH

Compiled by A. G. DuMez, Reporter on the Progress of Pharmacy.

All articles in these lists will be presented in abstract form in the bound volumes of the YEAR BOOK, which is issued annually. Those desiring abstracts immediately can obtain them for a fee of one dollar each by communicating with A. G. DuMez, University of Maryland, School of Pharmacy, N. E. Cor. Lombard and Greene Sts., Baltimore, Md.

PHARMACEUTICAL PREPARATIONS.

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ABSTRACTS OF PAPERS, BALTIMORE MEETING, A. P[illegible]

"Seven Ways to Meet Competition," Clyde Eddy.—The author deals with the paper "Seven Ways to Meet Competition" in presenting the following suggested methods: 1. Centralize your buying. 2. Buy only what you know you can sell. 3. Advertise your store, persistently, and in every way that you profitably can. 4. Make your store sell for you. 5. Capitalize your greatest asset by giving your customers individual service. 6. Consider the idea of specializing in quality merchandize and limited professional service. 7. Organize for study of retail distribution.

"Profit, Total Sales and Rent II," J. A. W. Luck.—This paper examines the condition of minimum sales, *i. e.*, when the net profit is exactly equal to zero. Therefore the gross profit suffices to meet all expenses. At the beginning of any mercantile establishment practically the only item of expense definitely known is the rent. By separating the expense items into three factors, wages, rent and a quantity called the Index Figure it is possible to represent all these factors by equations in terms of the rent.

From the data of established drug stores it was found that the Index Figure is a linear function of the rent. By expressing the volume of sales in terms of unit wages it is possible to derive a linear relation of wages to rent.

By means of these equations it is possible to calculate the volume of sales to yield a fixed net profit.

"Claudius Galen," Louis Wait Rising.—In abstract the paper takes up the life of Galen which began in 130 A. D. in the Asia Minor town of Pergamun, and follows it through to his death in the year 200 A. D. His great influence on medicine and pharmacy, also on the other branches of science in those early days is pointed out. The paper is purely biographical and has to do only with one of the "Grand Old Men of Pharmacy."

"Entries of Pharmaceutical Interest from the Wastebook of B. Arnold, Druggist, Book Seller, etc., from London," R. D. Bienfang.—A brief sketch of Arnold's early life, with some anecdotes concerning his apprenticeship, followed by entries of pharmaceutical interest taken from his wastebook, or ledger, begun April 26, 1773. The complete contemporary title for the more unfamiliar of these items is given in Latin and in English. Two illustrations are included. One is of Arnold's sign, mortar and medicine chest; and the other a facsimile of the list of medicines on page 11 of his wastebook.

DEPARTMENT OF BUSINESS MANAGEMENT

Conducted by Paul C. Olsen.*

COMMENTS, QUESTIONS AND SUGGESTIONS ARE INVITED AND WELCOME.

Readers are invited to submit comments, criticisms and suggestions regarding the material which appears in this department. The Editor also will undertake to answer questions regarding general problems of business management. Letters of general interest will be published, but the writer's name will not be revealed without his permission.

ADVERTISING PROBLEMS OF INDIVIDUAL DRUG STORES.

BY PAUL C. OLSEN.

Individual retail druggists who do advertise usually spend for this purpose 1 to 2 per cent of their receipts. The facts are, however, that an astonishingly small proportion of the retail druggists of the United States do any advertising at all. This is true of thousands of druggists who are thoroughly well aware of the power and productiveness of effective advertising.

They are certainly not in the position of operators of variety stores with regard to advertising. Variety stores are visited daily by crowds of shoppers who come in merely to see what is on display; therefore many operators of these stores do not consider it necessary to use newspaper and other formal advertising to draw customers to them. Drug stores enjoy no such advantage. Practically every person who comes in has entered for the purpose of making some specific purchase which he had in mind before entering.

Theoretically, it should be possible, practical and profitable to use advertising and other promotion methods to increase the number of people who do come in drug stores. Window displays are effective and economical, but they can reach, of course, only the people who actually pass the store.

The real reason that more druggists don't use advertising to attract people to their stores is the difficulty of getting profitable results from this advertising. This difficulty arises, in turn, from the comparatively small volume of sales in the usual individual drug store. In a drug store with sales of $20,000 a year, for instance, the total amount that can be spent profitably for advertising for a whole year is from $200 up to not more than $400. This is a total expenditure of $15 to $35 a month. Even in a drug store doing $100,000 a year—and this is a drug store of extraordinary size—the total appropriation that can be made profitably for advertising is only $1000 to $2000 a year.

In contrast, a department store, with annual sales of $2,000,000, quite a moderate sales figure for a department store, and spending no larger proportion of its receipts than a drug store for advertising, has available $20,000 to $40,000 a year for this purpose. It is obvious that this is a sum large enough to permit the full-time services of an advertising expert to plan and supervise the store's

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advertising. Advertising is a technical subject in which comparatively few people are either versed or naturally talented.

The savings from quantity production also operate adversely for the retail druggist who wants to advertise. Suppose blotters are to be distributed to customers and prospective customers within easy access of the store. Five hundred is the maximum quantity which can be distributed effectively (by many thousands of drug stores). The cost of producing and distributing 5000 blotters is not 10 times that for 500 blotters. The retail store which is in a position to use effectively 5000 blotters thus can advertise at a proportionately lower cost than the small store.

Chain drug stores have been quick to capitalize the advertising advantage they have over their individual competitors. Fifteen stores under a single ownership and management and each doing $100,000 a year are in a position to spend profitably for advertising $15,000 to $30,000 a year and get better results at a lower cost than an individual competitor with sales also of $100,000 and spending the same proportionate amount of his receipts. This is inevitable with the professional direction of the larger sum, the savings from quantity production and the accumulative effects from extensive and continuous advertising. If all of the stores of a drug chain are located in the same trading area, it may be possible to use daily newspapers—one of the most effective and economical means of retail store advertising. A single store serving only a part of the city or trading area would be likely to find newspaper advertising, in spite of its well-known advantages, hopelessly unprofitable.

The individual drug stores which suffer least from their inability to use advertising outside the stores to bring people to them are those which are closest to their customers. Large numbers of customers pass in the course of their regular affairs. City neighborhood drug stores are in this class. In areas which are not thickly populated, people may have to travel many miles to reach any drug store. Some means of reaching them is therefore of great importance to druggists who are trying to increase their volume of business. Fortunately, it is often possible for these druggists to use local daily and weekly newspapers on account of their concentrated circulations and low advertising rates. There still remains for these druggists, however, the technical problem of effective advertising.

What is true of advertising in daily and weekly newspapers in small cities is true also of the other external means which a druggist may consider to attract people to his store. They include:

1. Neighborhood newspapers (in large cities)
2. Store papers (house organs)
3. Theatre programs and theatre slides
4. Street car cards
5. Billboards
6. Electric signs
7. Novelties—*a*. Fans, *b*. Matches, *c*. Calendars
8. Samples
9. Directories
10. Counter slips (package inserts)
11. Booklets
12. Mailing cards and letters

Coöperative or syndicate advertising has been suggested frequently as a means of overcoming the inherent disadvantages in advertising small individual drug stores. There are companies offering advertising service of this kind. A large chain drug company sells its auxiliary agents a sales promotion service for $5 a month, which also includes, window and counter display helps.

The weakness which most druggists have observed in syndicate advertising services is their lack of individuality. This is no criticism of the firms offering these services; it is obvious that when a druggist can afford to pay, at the most, $15 or $20 a month for all of his advertising expenditures, the amount of attention that can be given to his individual problems by a syndicate is bound to be small. Yet the strength and salvation of the individual retail druggist is his individuality and his personal service. On the other hand, there are undoubtedly, numerous instances of druggists making far greater sales and profits from the use of syndicated advertising and sales promotion services than they would have made if no special promotion efforts at all had been made.

HOW CAN A STATE SECRETARY BEST SERVE THE MEMBERS OF HIS ORGANIZATION?*

BY WALTER D. ADAMS.[1]

Before a state secretary can efficiently serve there must first be builded an organization through which his energies may be directed.

He must have a means of contact whereby he can efficiently and intelligently serve each associated unit and, in a like manner, the individual member.

The constitution of an association is the foundation upon which the organization must be constructed. However, any foundation within itself is useless until something is built upon it.

The determining factor of success or failure in building an association depends largely upon the wisdom, simplicity and flexibility of its constitution.

After all, an association is but a great business institution, a mutual banding together of individual members in a co-partnership, organized for the purpose of assisting each other. It is the means through which personal endeavor reaches its maximum of power and influence as the result of intelligent massed effort.

In governmental and business undertakings it has been demonstrated that large bodies cannot function promptly and efficiently. This same rule applies to associations; therefore it has been found preferable and advantageous that the power of the whole body be delegated to a smaller group, chosen wisely from the membership and charged, under the constitution, with the duty of directing the activities of the association, and having the authority to grapple with unexpected conditions and qualified to solve perplexing problems as they arise.

The ideal organization can be likened to a great electrical power plant. The plant, as a complete and correlated whole, functions with efficiency and precision, yet there must be somewhere that first unit of outstanding magnitude which energizes and motivates every contiguous unit.

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* Section on Commercial Interests A. PH. A., Baltimore meeting, 1930.—No discussion.

[1] Secretary, Texas Pharmaceutical Association, Forney, Texas.

The power and force of this initial unit must be transformed and distributed to lateral units, these in turn, contacting with still smaller sub-divided units, thus rendering it of practical use and adapted to the needs of the most distant outlying unit.

It is an undisputed fact that regardless of the greatness of the volume of the power contained in the first unit, its usefulness is circumscribed unless it possesses ample facilities to reach out and distribute its power efficiently and wisely to other connected units.

The effectiveness as well as the usefulness of these smaller units depend on the volume of power at the source of origin and these smaller units will function and generate action just in proportion to that produced and wisely distributed by the central unit.

In like manner this is true in association work. The central energizing influence should be the secretary's office, and the chances are the organization will be a success or failure in proportion to the spirit and ability with which this office coöperates with its executives, the wisdom and sincerity with which it directs the membership and the latitude with which it is permitted to develop its plans and exert its usefulness.

The secretary's office should be the central service station, radiating the combined influence and power of all the coördinated units of organized pharmacy. The secretary should at all times be capable of promptly disseminating such reliable information as the individual members may request or the occasion require. Every service, regardless of its seeming insignificance, should be promptly and cheerfully rendered to the humblest and weakest individual as well as to the outstanding influential member of the organization. In the consideration of important problems he should have the tact to counsel with others, to the end that this organization may profit by combined wisdom of its best minds rather than be circumscribed by the guidance of a single individual.

In these days when we so frequently come in contact with what we are pleased to term "practical politics," it is very necessary that a secretary keep in touch with political situations as they develop from time to time. He should exercise the necessary diplomacy to properly contact his organization with those who have the power of directing legislation. It is important that far-sighted vision be exercised; a politician's service may not be needed to-day or this year, but sometime, somewhere down the road of time request for his assistance in the attainment of some work in hand will be made. When that time comes a much more friendly atmosphere will be experienced if the one approached feels that he is to some extent politically obligated to the members of the organization. The secretary should keep in touch with the acts of public men, even in matters which do not directly affect the association, the members, the business nor profession. An occasional note or commendation will let them know that the officers, members and the organization are awake, alert and interested in what is going on in governmental affairs. If once you succeed in convincing a politician that your influence is worth while and that the power of your organization is a valuable political asset you may rest assured you can always secure a respectful hearing and, in most instances, active support.

The secretary should be free from any organization, obligation or influence which will, in any manner, prevent independent thinking or interfere with unrestrained

action in the interest of his organization. He should publish and edit an association magazine which serves as a medium of contact with the membership. It should be made of such commanding interest and influence as to guide the membership in the direction of coöperative action.

The secretary who is satisfied with merely "getting by" is not getting anywhere. If that is all he is doing he is a failure and should resign and let some one else direct the job. The secretary should not be content with doing what is required of him; he should look about for new avenues of service—new work to do. The successful secretary is the one who is always on the alert to find some undiscovered source through which will come additional funds, prestige or influence for his organization. If "eternal vigilance is the price of liberty" then it is equally true that success can only come by intelligent unceasing effort.

The secretary should have an office properly equipped with sufficient assistants to enable him to render prompt and efficient service in supplying reliable information without delay. There is nothing which will prove a greater detriment to success than being neglectful in answering correspondence. Meetings should be carefully scheduled so that the maximum of business can be conducted in the minimum of time. He should never assume that all wisdom began with himself and that it will perish from the earth when once he makes his final exit; he should always remember there are others. He should be patient with the simple and obstinate and acquire wisdom and information from the learned. He should listen attentively, talk little and cautiously, always bearing in mind that "we never have to regret or apologize for the things we do not say."

The secretary should be chosen by the Executive Committee or in such manner as to entirely divorce his office from the baneful effects of petty convention politics. He should be the servant of the entire membership with no political obligations to hamper his influence or to interfere with the harmonious functioning of every individual or interest. He should be broadminded to the extent that he promptly recognizes ability and usefulness where these exist, regardless of his personal likes or dislikes. The Executive Committee should grant unto him such power as he is able to demonstrate he is capable of using wisely and efficiently.

The state association which attempts to function without the services of a paid secretary is trailing along in the age of long skirts and top buggies. It is about as progressive as the merchant who continues to keep his money in a cigar box and refuses to purchase a cash register. Many state associations have employed efficient secretaries at good salaries; those who have not done so should try the plan and witness the improvement. No profession or group of business men should expect a competent secretary to render efficient service without financial remuneration in sufficient amount to justify him in devoting his thought and energies to the success and welfare of the organization. The salary of the secretary should be increased from time to time, depending upon the results obtained. (Some incumbent might prove expensive at no salary at all.)

The side-lines of service whereby the secretary may prove useful to his organization are as numerous as are the varied lines of merchandise sold in drug stores. What might be feasible in one section would not be so in another, therefore it is impossible, in a paper of this kind, to outline a concrete and constructive course to follow; we must, therefore, be content with thus briefly expressing some of the

patent facts connected with the subject, especially emphasizing the necessity of an efficient secretary, properly remunerated, as being necessary for the success of associations.

THE PLEASURE AND SATISFACTION OF CONDUCTING A PROFESSIONAL PHARMACY.*

BY THOMAS ROACH.

A friend of mine met me on the street the other day and said "Tom, you are a queer fellow. I understand that you have a drug store where you haven't anything for sale but drugs—how the Sam Hill do you get along doing that kind of business?"

Of course, Bill was trying to be funny with me, but in his question and its import is wrapped a world of meaning to me.

Aside from the hope of at least a little financial reward in the days that are yet to come (which I will speak of later), the greatest joy and pleasure that I get out of the new venture is being able to indulge in doing the things that I have wanted to do ever since my early days in pharmacy.

I have never felt that I was very much of a merchant, especially from a volume-merchandising standpoint, but have always enjoyed working at the prescription case, and at this time would rather do that one thing than anything else, as far as labor is concerned. So from the standpoint of a vocation, I was just coming into my own when my shop was opened.

Possibly I could describe the pleasure of such a business better by noting the absence of some of the things that have been my drug store surroundings in other stores that I have owned or been connected with.

It always grated on my nerves to invite customers into my drug store to have their prescriptions filled, and then have them pass between twenty-five soda tables to get to the prescription case. This was especially irritating when people remarked "Is this a drug store or a restaurant?" It did not soften matters much to reply that we were trying to operate an "ultra-modern drug store."

The "jelly bean loafers" are others of the "Genus Drugstorious" I fondly miss. Those who hung around in the front aisles of the store, and on week-ends overflowed in the front door and sidewalks, buying but very little, and by their very intruding presence keeping away from our store many possible customers whose refinement bade them seek to do their drug store buying in places not infested by such an audience, for indeed the presence of the before-mentioned many times took on the nature of a very critical audience.

Another thing to be noted as absent is the patent medicine advertising that I was expected to run over my name. I could never keep from feeling, every time I let my name appear at the bottom of a proprietary remedy ad, that I was at least tacitly endorsing the preparation, regardless of the extravagant claims that were sometimes held out for it.

Carrying water on both shoulders is an easy job compared to the druggist's lot when he is asking the physician to send him his prescription business, and then

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* Section on Commercial Interests, A. PH. A., Baltimore meeting, 1930.—No discussion.

advising the public through patent medicine advertising that it is unnecessary to consult the doctor.

While I am on the subject of advertising, we take pride in the class of copy we are using in the newspapers. While it is not altogether original, it is personal, and each ad carries a direct message—to the point that our shop is the place to have prescriptions filled. Most of the advertisements carry the message "to consult the physician first;" nothing is used in the messages of which a doctor would not approve.

Conducting a prescription shop places the pharmacist in a position so that professional men treat him more as their equal, and I think they feel more like consulting him on many questions relative to which he can be of assistance to them, than they do a man who is busy at least half of his time looking after matters that are entirely foreign to drugs and medicines.

It has been a source of satisfaction to me to have the time (which this kind of business enables me to have) to really get acquainted with my family, and spend my evenings and Sundays at home, or at least not at the store.

As to its financial success—we have now been operating a year (April 1930), and the balance sheet is beginning to show up in black letters instead of red. I had figured that if we were able to do this in a year we would be doing well. Every month has shown an increase except August and January.

The first year's record leads me to believe that from here on it will prove a modestly profitable undertaking, sufficient to take care of the writer and his family in the station of life they now occupy, but not enough to be burdened by the worries of "lots" of money.

After all, the greatest joy and satisfaction one can get out of life is in serving our fellow men in the place where we can be of the greatest service, and my belief is that in this I have found my place.

YOUR GUEST—THE DRUG STORE CUSTOMER.*

BY W. BRUCE PHILIP.

I believe in devoting all effort to improving the man. When we improve the man, we improve everything that man makes. Improve the pharmacist and we improve the drug store. One question before pharmacy to-day is "How can we keep the independent drug store independent?" My answer is "improve the independent man; the store then takes care of itself."

Mr. Independent Drug Store Man, I am going to talk about you, but in order that we can be on common ground, for I am an Independent Drug Store Man, let's talk about our best friend—our customer. Without him we do not exist.

Our Guests.—Is there in our home, apart from members of our family, anyone that brings to us greater joy than our guests? Do we not, regardless of how we feel or think, put our best foot forward and make them feel the pleasure we experience at their coming? We greet them instantly as the bell rings. We open wide the door. We take them by the hand and assure each one that we are glad to see them. We make them feel at home. We make them comfortable in every

* Read before the Section on Commercial Interests, A. PH. A., Baltimore meeting, 1930. No discussion.

way. We hope to make them reluctant to leave. The visit over, both guest and host should have as a last thought, "May we soon meet again."

Our demeanor, our dress, the physical appearance and the tidiness of our home, yes, the words of our conversation, are the ambassadors that make better friends.

The best friend comes back again and again. All this is reflected in the attitude of our guest to us. The guest looks up to us, or meets us on an equal plane. Even if our guest is a distinguished person, no matter how humble the home, if the reception is right, the guest is pleased and satisfied. Courtesy is the medium of exchange between gentlemen and gentlewomen.

Why should our store life be different? Are we not professional men and women? Are we not ladies and gentlemen in the true and best sense of these words? Do we not, from time to time, receive the innermost confidence and intimate personal problems of our customers who are in reality our guests?

Are we not truly hosts that have as friends and privileged acquaintanceship the people of our community?

Should we not stop selling and start serving?

In the morning of each day we open wide our drug store door. Our stores from the windows to the very rear wall should breathe *Welcome* to the world. The instant some one accepts this invitation, we, as a true host, should approach and welcome our guest. Nothing should be left undone that we can provide for our guest's welfare and comfort. To us, that guest is our entire problem. No breach of etiquette should be allowed. We, as a perfect host, should see that our dress, our manners, our speech and our drug store are such that no critical guest will have reason to find fault.

And when the service is rendered, the purchase made, and out guest departs, will not the thought pass through his mind "May it be soon that we meet again?"

Out of many friends is built a happy and fruitful life. Out of many friendly guests a pharmacy can bring to the host-owner a position in the community that is as high and respectful, as well as profitable, as any that I know of.

Forget that we are ever going to have a person whom we will call customer. When the phone rings, or when a lady, gentleman or child passes through our drug store door, remember he or she is our guest. We are the hosts.

You are operating on the highest planes of pharmaceutical endeavor.

Our clerks are our household. If we work that way throughout the days, weeks and years, we and our home stores will always be in demand and desired.

The drug stores that offer to a guest only the greeting and service of a butler or a maid, can hope to do no more than to receive the calling card of business and at best only a formal visit. To them the thrill of a pharmaceutical professional life is missing. They only see a record of a material-selling obligation performed, and when they pass, as the night follows the day, no one will mourn, no one will care.

But those that are hosts to the world, who love the joy of making the people of their community their guests, stand out for the independence of pharmacy and pharmaceutical service. They are the salt of the earth. As they keep true to the principles that guests know so well, they will live through the ages. That kind of service can never die, and as they pass their work to those who follow, they will be loved and honored as they justly deserve.

THE PRESCRIPTION BUSINESS IN BUFFALO.*

Are you filling as many prescriptions as the average store of your age?

How many years have you been in the drug business at your address? Are you doing an average business for a store of its age? Do you fill as many prescriptions as the average store of the age of your store?

Wondering how many prescriptions an independently owned drug store should fill in its first year, and how these would increase with the age of the store, I made a personal survey of the drug stores of Buffalo (a city of about 565,000) and from the data secured can make some definite statements concerning the prescription business. Figures were obtained from eighty drug stores, which constituted slightly more than twenty-five per cent of the drug stores in this city.

One approach to a problem of this kind is to call upon a store and list the number of prescriptions filled in its first year, the number filled in its fifth year and also in its tenth year, etc. With results secured from a sufficient number of stores, one can predict the number each drug store should be filling, if an average store.

The fault with this method is that stores of different years are compared. One store's first year may be during an epidemic such as the "Flu" or, on the other hand, it may be a very quiet year when there was very little illness. Another method, which seemed more feasible, was offered and on the law of averages will give you the same results, because all the figures will be based on the same year.

Recently Prof. Edmund McGarry, of the Bureau of Business Research of the University of Buffalo, made a Mortality Study of the drug stores in Buffalo, over a 10-year period beginning with the year 1918 and ending with the year 1927. This study showed that there were twenty-nine new independent drug stores opened in 1927, that there were twenty-nine stores 5 years old or opened in 1922 and there were ninety-two stores 10 or more years old, opened in 1917 or earlier.

Securing the names of the drug stores in the 1-year, 5-year and 10- or more years group, I personally called upon them and secured answers to the questions in the following questionnaire: (1) name of store; (2) address of store; (3) type of store, that is, neighborhood, transient, central, etc.; (4) class of trade, that is, foreign, transient neighborhood, etc.; (5) age of store (total, not just present ownership). For the year 1927, the following questions were asked: (6) number of new prescriptions filled including new narcotics; (7) number of new narcotics filled; (8) number of repeat prescriptions filled. My reasons for adopting 1927 as the basis for this study were: *First*, I could readily secure the list of stores with their age; *second*, it was a normal prescription year with no serious epidemic during the year.

After about sixty stores had been visited, and an approximate calculation made of the figures, I decided the survey should include the best prescription stores in the city, if possible, in order that the grand average for the city should be high rather than low. Therefore, in one of our weekly Pharmacy Staff Conferences at the School of Pharmacy, I asked the Pharmacy Staff to name the ten outstanding prescription stores in the city, which in their estimation fill the most prescriptions. Of the list agreed upon, nine are included in my survey, the other one was

* Section on Practical Pharmacy and Dispensing, A. PH. A., Baltimore meeting, 1930.

not included because the store was neither one year, five year or ten or more years old in 1927 but instead was within the ages excluded in the survey.

Of the twenty-nine stores listed as 1 year old in 1927, twelve stores are included in the results. About ten additional stores were surveyed but found to be older than one year. If the store had changed ownership or name during the year 1927, it was listed as a new store in the Mortality Study. If the store had been in actual operation for either five years or ten or more years, the figures were recorded as of the actual age of the store. On the other hand, if the store had been in actual operation only two, three, four or six, seven, eight or nine years, it was not considered. Likewise, there were twenty-nine stores listed as 5 years old. Fifteen of these are included in the survey as five years old. Here again, if the store was actually more than five years old, it was not included unless it was ten or more years old. Lastly, fifty-three stores ten or more years old are included in the survey. One hundred and one stores were interviewed in securing the eighty results reported.

In selecting the stores to be surveyed, the stores in each age group were listed separately and, as far as possible, stores of each age were chosen in every section of the city.

The results shown by this survey, will be given by beginning with question number eight, number of repeat prescriptions filled. After starting this survey, it became very evident that this question would be of little value because very few kept a record of repeat prescriptions filled. Of the twelve stores, 1 year old, only one kept this record. Of the fifteen, 5-year old stores, only two kept this record; and of the fifty-three, 10- or more year old stores, only nineteen or about 36 per cent kept a record. The average results of the nineteen stores in the 10-year old group show that for each one hundred new prescriptions filled, there were 74 repeats filled. Of these nineteen stores, two filled a few more repeats than new ones during the year 1927, another filled 3481 new prescriptions and only 738 repeats; while still another filled 2773 new prescriptions and only 844 repeats. The consensus of opinion of most of the men not keeping a record was that they filled two new prescriptions for each repeat.

Question number seven, number of new narcotics, was not answered by all. This question was added at the suggestion of several pharmacists whom I had interviewed before making out my final questionnaire. They were anxious to see how their percentage of narcotics compared with others. Four stores in the one-year group, three stores in the 5-year group and eight stores in the 10- or more year group failed to state the number of narcotics filled.

The 1-year group had 12 per cent of narcotics, the maximum percentage filled in one store was 21.6 per cent and the minimum percentage filled in one store was 7.5 per cent; the 5-year old group had 14.8 per cent, the maximum percentage filled in one store was 35.5 per cent and the minimum percentage filled in one store was 7.6 per cent, while the 10-year old group had 14.0 per cent narcotics, the maximum percentage filled in one store was 33.6 per cent and the minimum percentage filled in one store was zero or none, while another store had only 1.7 per cent. In the case of the store with none, this was because they did not care to be involved in any narcotic violations. This was one of the big surprises to me because I did not think any drug store would refuse to fill any nar-

cotic prescriptions regardless of the quantity of narcotic involved if they had a narcotic license. The average for the sixty-five stores reported was 13.96 per cent.

Question number six, number of new prescriptions including new narcotics filled, showed wide variations in different stores, sections and stores in the one-age group. The twelve stores in the one-year group showed a daily average of 7.5 prescriptions. The stores filling the maximum number filled 7074 in its first year with a daily average of 19.1 prescriptions. The store filling the minimum number filled only 401 with a daily average of 1.1 prescriptions. The fifteen stores in the 5-year group showed a daily average of 7.0 prescriptions. The store filling the maximum number filled 6407 prescriptions with a daily average of 17.6 prescriptions. The store filling the minimum number filled 789 or a daily average of 2.2 prescriptions. The fifty-three stores in the ten or more years old group showed a daily average of 12.0 prescriptions. The store filling the maximum number filled 17,520 with a daily average of 48 prescriptions. The store filling the minimum number filled only 650 with a daily average of 1.8 prescriptions. The daily average of all the stores, eighty in number, is 10.45 prescriptions.

Table I shows the number of stores in each age group filling prescriptions based upon number of thousand filled per year.

TABLE I.

Number of new prescriptions filled in 1927.	Age of Store. One year.	Five years.	Ten or more years.
Less than 1,000	2	2	3
1,000 to 2,000	2	4	7
2,000 to 3,000	2	5	9
3,000 to 4,000	5	1	11
4,000 to 5,000	0	2	4
5,000 to 6,000	0	0	9
6,000 to 7,000	0	1	2
7,000 to 8,000	1	0	4
8,000 to 9,000	0	0	1
9,000 to 10,000	0	0	1
10,000 to 11,000	0	0	0
11,000 to 12,000	0	0	0
12,000 to 13,000	0	0	1
13,000 to 14,000	0	0	0
14,000 to 15,000	0	0	1
	12	15	53

If you wish to know how many stores filled between 2000 and 3000 prescriptions, turn to Table I and you will find by looking across from the heading 2000 to 3000 that two stores, one year old, five stores, five years old and nine stores, ten or more years old filled that number. Also, Table I shows that, with the exception of one, one-year old store, four thousand prescriptions in the first year is the maximum. In the case of five-year old stores, they spread out a little and increase. In the case of the 10-year old stores, about 75 per cent of them average between 1500 and 6000 prescriptions per year.

Of the fifteen stores filling the largest number of prescriptions, thirteen were in the ten- or more year old group, one in ninth place was a 1-year old store and one, in twelve place was a 5-year old store. From the table shown and the per-

centages mentioned above, the 1-year group exceeds the 5-year group, but in my estimation, this is due to the small number considered. The one rather abnormal 1-year store doing 7074 prescriptions carries undue weight in the totals. I do not think that the 1-year group could exceed if more stores could be totaled.

Because of these figures, I then tried to secure the actual increase in prescriptions in several stores over ten years old but succeeded in getting only one, which is as follows: The number filled in its first year was 930, in its fifth year, 1505; tenth year 2942, while in its thirty-second year the number was 5856. Many stores over ten years old are not owned by the original owners or no record was kept of prescriptions filled. This particular store which was thirty-two years old in 1927, under the original ownership, was established in the outskirts of Buffalo and the section has been continuously growing until it is in the center of a thriving community.

Question number five, age of store, brought out the fact that many stores had been long established, but the owner, in 1927, in most instances had not originally opened the store. The oldest store found in the survey was 54 years old and is still operated by its original owner. Another store was 52 years old and two were 50 years old. None of these, however, were still maintained by the original owners. The average age of each store in the 10- or more year old group, regardless of ownership, was 26.5 years.

During the interview with many of these older stores, the proprietors told me that "in days gone by," they had filled many more prescriptions than at present, for which they gave me these two reasons: *First*, the shifting of population with change in the type of trade; *second*, physicians are not writing as many prescriptions as formerly, but, instead, are dispensing their own medicines.

From the data secured from questions number three and four concerning class of trade and type of store, little information can be given with the small number of stores involved. Whether a store is located in a neighborhood, on a transient corner or in the center of the city with nothing but a transient trade seems to make no difference. The averages appear practically the same. It appears that other factors tend to influence the volume of prescription business done.

In conclusion, based upon the data submitted and the personal interviews with these pharmacists, the following statements are made:

(1) It appears that the public places its confidence in the old established stores when they have their prescriptions filled. However, from the total number of prescriptions filled by the leading 1-year old store, other factors must be involved.

(2) The drug stores in the City of Buffalo, numbering about 300 in 1927, average less than ten new prescriptions a day. Will this warrant the time spent at a School of Pharmacy? Yes—to fill one prescription a year requires a technical training. Will it warrant a four-year course? I do not think so, if based solely upon present prescription figures. If Pharmacy is going to keep pace with the higher scientific developments along chemical and medical lines, it is absolutely necessary that the schools of Pharmacy keep in line with courses of the type which will qualify a pharmacist to meet the increased demands of the medical profession and place pharmacy on a standard recognized by the rest of the scientific fields.

On the other hand, in order to secure the necessary share of purely Commercial Business that is necessary to keep their business on a profit-paying basis, since the number of prescriptions being filled will not support a drug store, better courses in modern merchandising are necessary. The drug store has become an economic necessity and the public is looking to them for many other things than drugs. Therefore, a pharmacist should also be trained to meet this new and demanded service.

(3) A large prescription business is not entirely dependent upon the location of the store. Many other factors have far more weight. What are they? Teachers of Dispensing Pharmacy should instill these essential factors to develop more purely professional stores. With a thorough knowledge of these, I believe more professional stores would be in existence. Few know the essentials necessary for opening and successfully conducting such a pharmacy.

THE BIRTH OF THE SCIENTIFIC JOURNAL.*

BY FRED B. KILMER

Pharmacy moves forward or recedes under the influence of the arts and sciences, especially those to which it is particularly related.

Historians put labels on ages, periods and centuries, and thus the Seventeenth Century has been characterized as the "Golden Century." It was a period during which great strides were made in the realm of knowledge. During this century methods and means of scientific advance were established. Many important scientific facts were discovered.

During the Seventeenth Century "experiment was introduced into science," leading into that form of investigation which we now characterize as research. On the intellectual and spiritual side in this age there appear Shakespeare and Milton, Cervantes and Moliere. In science came Newton and Leibnitz, Bacon and Descartes, Galilio, Copernicius and a host of others.

SOCIETIES.

Science in this period was adopted by what has been termed "science-loving amateurs"—men of wealth, nobility and influence, and from other classes of society. These men delved in the realm of science "not as a livelihood, but for the love of it." This, in a way, is akin to our more modern "endowed research," with the difference that in the older period the patron himself took part in the research work. As one historian puts it: "Science has become the employment of the rich and great."

As a natural sequence, men of science came together for discussion and mutual aid. Unions of scientific workers, leading to the formation of learned societies, some of which still exist, form a striking mark of the period. These societies were the forerunners of the great national and international societies and congresses which so profoundly affect the progress of science in our time. The most important of these societies were:

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* Section on Historical Pharmacy, Rapid City meeting, 1929.

The Accademia del Cimento (Academy of Experiments) of Florence, Italy. The Academi des Sciences, in France. The Royal Society, in England. The Collegium Curiosum sive Experimentale, in Germany. In Germany there was also formed the Collegium Naturae Curiosum, a union of physicians whose investigations were those which were considered of importance to medicine. Apothecaries who had attained the Doctor's Degree were admitted to this society. The society's objective was: "The advancement of medicine and pharmacy." In the publications of this society and its successors the historian finds interesting data in relation to chemistry, pharmacy and medicinal plants.

THE BIRTH OF THE SCIENTIFIC JOURNAL.

Prior to the latter half of the Seventeenth Century the only means of scientific intercommunication was private correspondence. Most interesting and amusing to the historical searcher are the voluminous personal communications which passed between scientists. At times these carried acrimonious discussions. There were bitter, biting accusation and long-drawn-out quarrels. Under these conditions knowledge of scientific progress or of important discoveries could not be disseminated.

Man-propelled flying-machine, described and illustrated in "Journal des Scavans," 1678.

Here arose a man who filled the need and became the first editor and publisher of a scientific journal. He was a Frenchman, Denis de Sallo—a scientist who had the habit of abstracting from books and manuscripts such items as he deemed of importance and filing them for reference. It came to him to print some of these abstracts for the edification of his fellow workers. Thus began the first periodical devoted to science, the "Journal des Scavans," published in Paris in 1665. The purpose of the journal, as outlined in its first number, was: to describe new books, especially those pertaining to science; to give obituaries of famous men of science; to describe experiments in and new discoveries in the Arts and Sciences, including curious inventions, useful machines, observations in physics, chemistry and astronomy, medicine (including pharmacy), and "current events in the world of letters."

Within a few months the editor encountered the antagonism of the Church, and publication license was withdrawn. The journal was, however, revived and placed under the direction of a board of editors. The journal, issued weekly, consisted of twelve pages, sheets seven by nine inches, twelve point type (type size of page, 4 x 7). A feature of the issue was that the illustrations were engraved on steel plates and the impressions from the engraved plates were made separately from the printing of the type matter. The paper was apparently of linen fibre. The ink was made of lamp black and oil. The copies which have been preserved are in excellent condition.

The writer has deposited in the Library and Museum of the AMERICAN PHARMA-

CEUTICAL ASSOCIATION a bound volume carrying the issues of the "Journal des Scavans" for the year 1678. This year there were thirty-eight issues of the Journal, with a total of 459 pages. The bound volume carries an index of the more important articles which had appeared in the Journal during the year. Through the pages things pharmaceutical appear sometimes as separate items; at other times mingled with chemistry and medicine. Much attention is given in the volume to astronomical problems, with records of observations of an eclipse of the moon in October 1678. The discovery of perpetual motion is announced, followed by a dissertation showing its impossibility. A foot-propelled flying machine is described, and we see a man flying like a bird through the air under his own power.

The French journal was promptly followed in England, Italy, Germany and Holland by the publication of journals devoted to science in the language of the country where issued. A mere list of the illustrious contributors to these early journals would make up a "Who's Who in Science" of the period. It would include such names as Descartes, Halley, Boyle, Grew, Leewenhock, Ray, Newton, Leibnitz, Papin, Tournefort, Lemery and many more.

The Journal was an ambitious venture for the time when it was inaugurated. Prior to its beginning scientific books and pamphlets had been issued in the Latin language. An aristocracy of science, a caste of the learned, had been created. With the coming of the societies whose transactions and experiments were conducted in the vernacular, and again with the advent of the scientific journal printed in the common tongue, the door to the reading of science was flung open. Science was made popular and democratic.

The work of the societies, and especially their discussion of science in the language of the people, met with opposition in the universities. In the universities lectures, instructions, examinations, thesis papers, even communication between students, were in Latin. To discuss or study science except in the classic Latin was to render it "vulgar and profane." The popularization of science creates an outstanding mark of progress for the Seventeenth Century. If we move forward to the Twentieth Century we note a striking contrast. In every civilized land man, woman and child reads each in his own tongue of the discoveries and development of scientific progress. Science fills pages of the magazines, crowds the newspaper columns. Books and pamphlets devoted to science become the "best sellers." The movies bring science in pictures. The waves of science engulf the home through the radio. Every hour of the day and of the night the cornucopia of science is emptied out upon mankind.

PRESENT-DAY LITERATURE.

Since the first Journal of Science was born the stream of scientific literature has risen to oceans that flood the earth. One journal of a dozen pages in the Seventeenth Century has become nearly thirty thousand in the Twentieth Century—millions of printed pages of scientific journalism.

When we add to this the portentous volumes of transactions, year books, the vast quantities of stated volumes devoted to science; pile upon this the science in secular magazines, newspaper science; science that floats through the air from the radio; we are overwhelmed by the avalanche of science. No man can read, much less "mark or inwardly digest" this mass.

A critic of modern scientific literature (Singer) notes its lack of form: "Many scientific publications are but semi-literature; they are often incoherent in presentation and even more frequently unnecessarily diffuse." "The unliterary character of scientific writing bids fair to pass from being a mere nuisance to become a great scientific evil."

The present-day output of scientific literature is the result of mass production. Historians lament the destruction of the Alexandrian Library. No library in the world is large enough to store the literary output of even a few decades of the present era. Our first Journal of Science was printed on linen paper with carbon inks. Save for a slight yellowing, after two centuries and a half its pages remain clear and readable. Barring accidents, they will be preserved for several centuries hence. Our modern volumes carry within their make-up the elements of self-destruction. They are printed on paper which is the product of scientific discovery, chemicalized pulp, with chemicalized inks. In a few decades they become tender and fade; disintegration follows. Two centuries hence they will have returned to dust. Possibly this is a righteous retribution. To issue these pages we denuded the land of its forests. Floods and disasters followed: and now the literature which we created disappears.

Out of the journals devoted to generalized science, which had their origin in the Seventeenth Century, have been evolved the journals devoted to special branches of science. The first journal devoted to pharmacy was the "Bulletin de Pharmacie," founded in Paris, 1809. The second was the "American Journal of Pharmacy," established in Philadelphia, 1825. From this beginning have come a hundred or more publications that in whole or in part are devoted to pharmacy.

To the pharmaceutical journals a full measure of credit is due for the advancement of pharmacy. Through their support pharmacy has become organized. Wise legislative measures have been enacted. Pharmaceutical education has moved forward.

In the humble beginnings here summarized there was laid the solid foundation of modern science. In the evolution and the revolution which followed we trace the advancement of modern pharmacy.

U. S. PHARMCOPŒIA XI.

The Chairmen of the Sub-Committees of the Committee of Revision are:

Scope—Dr. Reid Hunt; *Therapeutics and Pharmacodynamics*—Dr. Henry A. Christian; *Biological Assays*—Dr. C. W. Edmunds; *Biological Products and Diagnostical Biological Tests*—Dr. George W. McCoy; *Botany and Pharmacognosy*—F. L. Newcomb; *Proximate Assays*—C. B. Jordan; *Inorganic Chemicals*—John C. Krantz, Jr.; *Organic Chemicals*—George D. Beal; *Reagents and Test Solutions*—Ernest Little; *Volatile Oils*—W. O. Richtmann; *Extracts, Fluidextracts and Tinctures*—Wilbur L. Scoville; *Waters, Solutions, Spirits, Syrups and Elixirs*—H. A. Langenhan; *Cerates, Ointments, and Miscellaneous Galenicals*—Leonard A. Seltzer; *Tables, Weights and Measures*—Theodore J. Bradley; *Nomenclature*—A. G. DuMez.

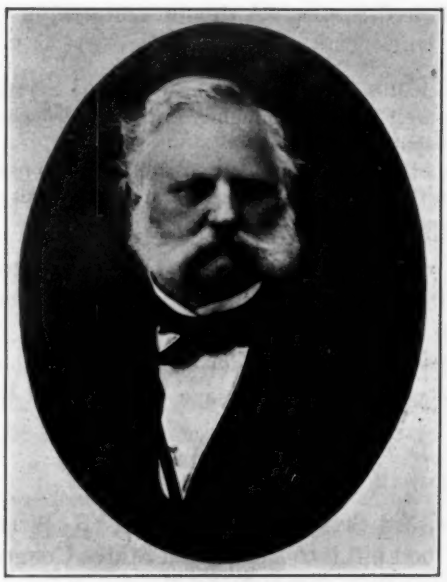
THE WORK OF THREE PIONEERS IN INITIATING FEDERAL FOOD AND DRUG LEGISLATION.*

REPRESENTATIVE H. B. WRIGHT, PA.; GEN. R. L. T. BEALE, VA.; AND COL. H. CASEY YOUNG, TENN.

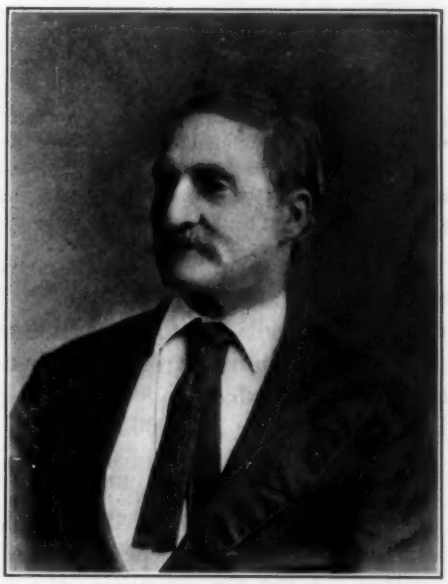
BY LYMAN F. KEBLER.[1]

A FEW INTRODUCTORY OBSERVATIONS.

We do not want to go back too far to get a start but it is desirable to point out a few landmarks in passing. In 1820 two books appeared in this country that left indelible impressions, one the United States Pharmacopœia, now in its tenth decennial revision, the other an American edition of Frederick Accum's



HENDRICK B. WRIGHT.



RICHARD LEE T. BEALE.

"Treatise on Adulteration of Foods," a classic and probably the most extensively reviewed book on chemistry ever written.

In 1823, J. Cutbush published his "Lectures on Food Adulteration," and Lewis C. Beck's book entitled "Adulteration of Various Substances Used in Medicine and the Arts," appeared in 1846. Two years later the Federal Import pure drug and chemical law was put on the statute books by the 30th Congress. The same Congress (1848), appropriated the first money for making chemical analysis of food stuffs, detecting adulterations and devising ways and means to guard against their injuries. The investigations were of great value but were not followed up for over a quarter of a century. Representative R. L. T. Beale, of whom we shall hear later, was a member of this Congress. If he were with us he might be able

* Section on Historical Pharmacy, A. PH. A., Rapid City meeting, 1929.

[1] Former Chief Drug Division, Bureau of Chemistry, U. S. Department of Agriculture.

to tell us many interesting things about drug adulteration at that time and particularly why Senator Dickinson of N. Y. characterized the 1848 drug law an attempt "To put the bell on the cat." Standards for a number of drugs were early developed under this law.

Comparative quiet on adulterations prevailed in this country for about 20 years but there was considerable turmoil in England, and Germany and France were not idle. In England, a Sanitary Commission was appointed; A. H. Hassell was the leading spirit. His book "Adulteration Detected," appeared in 1857. The first English law covering food adulteration in general came into existence in 1860. It was modified to include drugs in 1872. The same year the first state general food and drug law in the United States was passed in California. The alleged practically worthless English "Sale of Food and Drugs Act 1875," came into existence. An amendment thereto in 1879 made the law effective.

Things began to get restless in the United States. A drastic editorial in the American Grocer for 1869 reads in part:

> "We need a law which will impose severe penalties for adulterated food. At present there are certain articles which never can be obtained pure.* * * No Community in the civilized world, we presume, is as much fed on shams as are the residents of New York."
>
> "Coffee beans are now actually made, like bricks, from a pale greenish clay, and approximate so closely to the natural Java coffee that in their unroasted state they are mixed with the genuine and cannot be distinguished by the eye alone."

In 1878 the United States Congress made drug adulteration in the District of Columbia a misdemeanor. Angell, in 1877, began his crusade against adulteration. His activities are related in another paper presented at this meeting.

With the above introduction we are prepared to consider the pioneer Federal bills that resulted, after a struggle of 27 years, in the passage of the Food and Drugs Act of June 30, 1906.

FIRST GENERAL PURE FOOD BILL INTRODUCED INTO CONGRESS.

On January 20, 1879, 45th Congress, 3rd Session, Honorable H. B. Wright introduced (H. R. 5916) the first general food bill into the United States Congress entitled, "A Bill for Preventing the Adulteration of Articles of Food and Drink." This bill penalized the manufacturing or selling of foods or drinks that were known to contain any injurious ingredients, or selling or offering to sell, any adulterated foods or drinks as pure and unadulterated. Any person was authorized to demand a sample of any food or drink that he had reason to believe was in violation of the law, have it analyzed by a chemist, and if found to contain any ingredient injurious to health or adulterated, he could recover in a summary way all the costs from the offender before any United States Judge. If any one refused to sell a suspicious sample of food or drink in his possession, he could be fined and in the discretion of the Commissioner imprisoned until the fine was paid and a sample of the article in question furnished.

Any person violating this act could be arrested upon complaint, in writing under oath, tried and if convicted, pay a fine and all costs or be committed to jail until such fine and costs be paid. For a second offense the party shall be fined and imprisoned. This was a rather drastic bill, had it not been tempered with the word "knowingly."

The Wright Bill was referred to a committee, printed and expired with the 45th Congress.

THE SECOND PURE FOOD BILL INTRODUCED INTO CONGRESS.

Representative R. L. T. Beale served in the same Congress (45th) with Mr. Wright and was reëlected to the 46th Congress. General Beale also served in the Congress (30th) that enacted the 1848 pure drug import law. Several months after Representative Beale took office in 1879, he introduced on May 23rd, 46th Congress, 1st Session, the second pure food bill (H. R. No. 2014) entitled "A Bill to Provide for the Welfare of the People in Preventing the Adulteration of Articles of Food and Drink." It was practically the same bill as the Wright Bill. The Beale Bill was referred to the "Committee on Manufacturers," and was the first food bill that received consideration at the hands of Congress.

Nine months later, February 25, 1880, the Committee on Manufactures made a very interesting report, accompanied with a substitute bill (H. R. No. 4738) entitled "A Bill to Regulate the Manufacture and Sale of Articles of Human Food and Drink." The bill was twice read and recommitted to the Committee on Manufactures. On March 4th, the substitute bill was "Reported with amendments, committed to the Committee of the Whole House on the state of the Union, and ordered to be printed." The following are a few of the points covered by the Report and the Substitute Bill, respectively:

FIRST REPORT ON PURE FOOD BILL BY CONGRESS.

(H. R. 46th Congress, 2 Sess., Report No. 346.)

Congress has the right to regulate interstate commerce and it is its duty to protect the citizens of the states against frauds and abuses. Each state has the right to protect and should protect its citizens against frauds and abuses arising within its jurisdiction. The Beale Bill was faulty in failing to set out these different features. The Substitute Bill aims to provide for these defects.

In this connection the report reads:

"It is evident that concurrent legislation by each state would remedy the evils of adulteration of human food and drink, and render any legislation by Congress unnecessary, touching inter-state Commerce, upon this subject. Such legislation, however, is wholly voluntary, and we might add, not within the range of a reasonable hope in the near future. And one material branch of the subject, that embraced in the foreign commerce of the country, is exclusively within the control of this Government."

The report further reads:

"The rapid advance of chemical science has opened a wide doorway for compounding mixtures so nearly resembling nature's products that the senses are impotent to detect the differences. Human cupidity eagerly grasps the chances to turn a dishonest penny, and in its greed for money, becomes calloused to human suffering."

Coffee beans were artificially colored with a mixture of lead chromate, barium sulphate and charcoal; tea contained only sufficient tea dust to give it a smell; sugar was adulterated with chloride of tin; candy loaded with terra alba (Kaolin); a newcomer was Oleomargarine cheese, that is, cheese in the manufacture of which animal fat was used instead of milk cream.

FIRST PURE FOOD SUBSTITUTE BILL SUBMITTED TO A COMMITTEE OF CONGRESS.

(The Substitute Bill, H. R. 4738.)

This bill prohibits the manufacture, importation, sales or barter of any human food or drink in the District of Columbia, or the United States Territories, knowing the same to be adulterated or containing any substance poisonous to life. Fine $100 to $1000, and to serve sentence not exceeding one year.

Prohibits the selling or offering for sale or bartering in the District of Columbia, or the U. S. Territories, of any article of human food or drink, adulterated with a substance of lower commercial value which may be injurious to the consumer, unless each package be "distinctly labeled with a statement of each substance used in the mixture or adulteration, and the percentage of each." Penalty, a misdemeanor with a fine of not less than $100 nor more than $500.

Forbids any person, firm or corporation, transporting knowingly, from one state to another, any article of food or drink, mixed with a substance of less commercial value, or harmful to the consumer, unless each package be "distinctly labeled with a statement of each substance used in the mixture of adulteration, and the percentage of each." Penalty, a misdemeanor with a fine of not less than $100 nor more than $500.

Forbids any person, firm or corporation, transporting knowingly, from one state to another, any article of food or drink, mixed with a substance of less commercial value, or harmful to the consumer, unless each package be labeled with a statement of each substance used in the mixture and the percentage of each.

Forbids any person, firm or corporation knowingly to import from any foreign country or from another state, any article of food or drink, which is mixed, impregnated, or coated with any poisonous substance for the purpose of sale or barter, unless each package of food and drink be labeled as above set forth. Fine $100 to $1000 and at the discretion of the court to be imprisoned not to exceed one year.

PUBLIC BECOMES DISTURBED.

While Congress deliberated on the above, both the trade and the consumer, with the assistance of the press, became very much agitated. A stormy public meeting was held in Chickering Hall, New York City, in connection with sugar adulteration. It was alleged that paid emissaries of the "Sugar ring" were endeavoring to break it up. Indignation ran high. The antagonists almost came to blows.

At a later date Angell was attacked; sugar adulterations created further excitement; truthful labeling was called for; demands were made that the names of those responsible for the ruinous system of manufacturing and selling adulterated goods should be published; the United States Board of Trade, through a committee, reported that Congress had the power to enact needful legislation to regulate commerce between the states; a score of petitions were sent to Congress asking for relief; the National Board of Trade at its annual meeting in Washington, December 12, 1879, through the generosity of a larger dealer of oleomargarine, then generally sold as butter, offered $1000 in three prizes for a draft of a "Food Adulteration Act," etc.

It will be noted that the Substitute Bill of Congress reflects public sentiment to a considerable extent. The proposed legislation was, however, severely attacked

in the *Plumber and Sanitary Engineer*, 3 (1880), 151, as "Unwise Food Legislation." The bill passed into oblivion with the expiration of the 46th Congress, but it must be said that it contained a number of the basic features embodied in the Federal Food and Drugs Act, 1906.

REPORT[1] OF BOARD OF TRADE COMMITTEE ON PRIZE ESSAYS.

Five outstanding citizens were appointed by the President of the National Board of Trade to serve as a committee on awards and to prepare drafts of suitable state and national laws, designed to prevent injurious adulteration and to regulate the sale of foods, without imposing unnecessary burdens upon commerce. The announcement of the prizes was made through the *Plumber and Sanitary Engineer*. The committee's report appeared in detail in this publication. It seemed that the whole affair was managed through this Plumber's paper. Why this obscure publication was selected to give so important a subject publicity is frequently a matter of comment.

For our purpose it seems desirable to call attention to a few features of the committee's report, namely, a proposed bill "To Prevent the Adulteration of Foods or Drugs," and the remarks accompanying the awards.

THE ADULTERATION BILL.

Its enforcement was lodged with the National Board of Health which was then under fire. In its make-up the bill was excellent. It did not cover either misbranding or seizures. These came through later bills. It contains 12 sections, many of which closely parallel the present Federal law. In fact certain wordings of this bill are identical with the present law.

THE INTRODUCTORY REMARKS OF THE REPORT.

This is where this committee erred. The remarks brought sharp and caustic attacks. They were set forth under nine headings. Some one paraphrased them as follows:

"1st That none of our stable articles of food or drink is so adulterated as to be dangerous.

"2nd That one of the main objects of legislation should be to nullify the operations of ignorant and sensational alarmists.

"3rd That adulterated drugs are more dangerous than adulterated foods.

"4th That it is much better to do too little than too much.

"5th That it would be unwise to attempt to secure uniform State laws.

"6th That the law should not attempt to define in detail what is adulteration.

"7th That the Board of Health should have power to exempt any article from the penalties.

"8th That care should be taken not to make penalties excessive.

"9th That under no circumstances should fees or moities be allowed informers."

The editor of a Western publication wrote about the report as follows:

"Out West it looks as if the unscrupulous and dangerous adulterations have poisoned the people and trade until the demand cannot be stopped, and 'the wise men from the East' kindly propose to capture and take charge of the whole reform business after this style:

"1st There is no danger.

"2nd Stop the 'ignorant alarmist,' he will damage the business interests of adulterators.

[1] "Proc. Nat. Board of Trade," 11 (1880), 74.

"3rd Poisoned food eaten three times a day is not as bad as adulterated drugs.

"4th The laws we propose, if passed, will not be worth a cent. It is better to do too little than too much.

"5th Don't try to get uniform State laws, for you can't.

"6th We don't think, etc.

"7th Don't define what adulteration is (somebody might be caught). If any one is caught give the board discretion to let him out.

"8th Don't hurt any one too much, and under no circumstances pay any one for enforcing the law.

"9th It is desirable that something should be done."

Why the committee reported that none of our staple articles of food or drink were dangerously adulterated, is difficult of comprehension. This claim is made in face of the fact that the prize essayists themselves declare that our foods contain such poisons as lead chromate, red lead, arsenicals, white lead, copper sulphate, sulphuric acid, tin chloride, cocculus indicus and others, and Dr. O. W. Wright, Commissioner of Health of Milwaukee says: "and about 25 other dangerous adulterations."

CONGRESSMAN H. CASEY YOUNG TAKES A HAND.

When these matters were brought to the attention of Representative Young he introduced on January 24, 1881, H. R. No. 7005, 46th. Cong., 3rd Session, a bill which authorized the President to appoint a commission of three persons, learned in chemistry and sanitary science, to investigate and report on the adulteration of foods and other articles. This bill was referred to a special committee, which committee held several hearings. On February 4th, the committee reported (Report No. 199) back with amendments, referred the bill to the Calendar and ordered it printed. This is the first exhaustive report on food adulteration published by Congress up to that time. The introduction of the committee report reads as follows:

"That they (the committee) have investigated, so far as they could with the time and opportunities they have had at their command, the injurious and poisonous compounds used in the preparation of food substances, and in the manufacture of wearing apparel and other articles; and find, from the evidence submitted to them, that the adulteration of articles used in the every-day diet of vast numbers of people has grown to and is now practised to such an extent as to seriously endanger the public health, and to call loudly for some sort of legislative correction. Drugs, liquors, articles of clothing, wall-paper and many other things, seem to be subjected to the same dangerous process. The legislation required to meet the end is of too important a character, the committee think, to be entered upon without a fuller investigation than any committee of Congress could give it; and it is therefore necessary for a commission to be appointed, as provided in the bill, to make a thorough and minute examination of the entire subject, aided by the necessary scientific appliances.* * * * *.

"The committee recommended that the bill be passed."

The report covers adulterations detected by Prof. G. A. Miner, a chemist of Chicago, Dr. R. U. Piper, a chemist and microscopist of Chicago, Prof. S. W. Johnson of Yale college and many others. One would hardly call these men alarmists. It will be noted that Representative Casey introduced his bill in the last session, just one short month before the 46th Congress expired. So far as my searches have gone, I have been unable to find any record of either the final passage of the bill or the appointment of the commission authorized by the bill or a report of an investigation as provided thereunder.

THE DEPARTMENT OF THE NATIONAL ASSOCIATION OF BOARDS OF PHARMACY

President, W. M. Hankins, Daytona, Fla. J. W. Gayle, *Treasurer*, Frankfort, Ky. Chairman of Executive Committee, A. C. Taylor, Washington, D. C. *Secretary*, H. C. Christensen, 130 N. Wells St., Chicago, Ill.

ACTIVE MEMBER STATES.

Alabama	Indiana	Montana	Rhode Island
Alaska	Iowa	Nebraska	South Carolina
Arizona	Kansas	Nevada	South Dakota
Arkansas	Kentucky	New Hampshire	Tennessee
Colorado	Louisiana	New Jersey	Texas
Connecticut	Maine	New Mexico	Utah
Delaware	Maryland	North Carolina	Vermont
D. of Columbia	Massachusetts	North Dakota	Virginia
Florida	Michigan	Ohio	Washington
Georgia	Minnesota	Oklahoma	West Virginia
Idaho	Mississippi	Oregon	Wisconsin
Illinois	Missouri	Pennsylvania	Wyoming
		Porto Rico	

THE PRESIDENT OF THE AMERICAN PHARMACEUTICAL ASSOCIATION.

THE National Association of Boards of Pharmacy has been signally honored by the election of its Secretary as president of the AMERICAN PHARMACEUTICAL ASSOCIATION. Secretary Christensen is absent from his office, being on an extended trip in the interest of both associations, and advantage is taken of his absence in recording his election in this Department.

The members of the boards are aware of the deep and continuous interest of their esteemed member in all work pertaining to American pharmacy, therefore, no lengthy comment is necessary, especially in view of the fact that a brief sketch appeared in the April number of the JOURNAL, and the minutes of the General Sessions, in this issue, speak of the high regard in which the Secretary is held.

The members of the ASSOCIATION expect and wish for him a most successful year of office, and the board members, from their acquaintance with him, know that every effort will be made by him to carry on and forward the work of the AMERICAN PHARMACEUTICAL ASSOCIATION in behalf of Pharmacy.

This brief comment is to congratulate the National Association of Boards of Pharmacy on the election of one of their number and to express the hope that President Christensen will have the undivided support of the organizations and the profession he honors.—E. G. E.

ABSTRACT OF MINUTES, TWENTY-SEVENTH ANNUAL CONVENTION, NATIONAL ASSOCIATION BOARDS OF PHARMACY, BALTIMORE, MD., MAY 5–6, 1930.

The Twenty-Seventh Annual Meeting of the N. A. B. P. was very well attended, both as to number of states represented and delegates present. The final roll call revealed 32 states represented by 81 delegates, also three guests and five honorary members being present.

PRESIDENT'S ADDRESS.[1]

President John A. J. Funk, of Indiana, presided at all the sessions and in his annual address as President called attention to the fact that the financial condition of the Association had improved considerably since last year, the expense and income accounts now being approximately equal.

Five of the nine districts had held joint meetings with the college faculties during the seven-month period since the last convention. This exceeded the record of any other year, which was rather surprising in view of the short convention year.

The President urged tolerance in reciprocity, giving specific examples as to how his attitude should be carried out.

He stressed most emphatically the necessity for having every board represented at every convention, in order to keep in contact with the work of the Association and understand and support its program. Public health and welfare bodies of all types realize the great good that can be accomplished by talking over problems with similar bodies of other states, thus benefiting by each other's experiences and avoiding needless mistakes.

The Executive Committee reported on the business it had transacted, and approved a budget of $19,832.70 for 1930–1931, an increase of $330 over the budget of the previous year.

REPORT OF SECRETARY.

Secretary Christensen reported 976 official applications issued from July 1, 1929, to April 1, 1930, as against 878 for the corresponding months last year, an increase of 98. Also, on account of the great care the Secretary's office takes in checking eligibility of applicants, the number of rejections has been cut in half during the last four years. The Secretary reported an extra amount of correspondence and circularizing, due to the increase in fee on January 1st, but the change has been accomplished very rapidly and with no confusion. The board secretaries are to be complimented on their coöperation in this effort.

REPORT OF TREASURER.

Treasurer Gayle gave a detailed report of his accounts, which was accepted. The figures will be published in the Proceedings.

DEPARTMENT OF POST-GRADUATE STUDY.

Director Swain reported on the activities of the new Department of Post-Graduate Study established at the last convention. The bulletins had been issued monthly commencing with January. The advisability of continuing the Department was freely discussed, after which, upon motion of Dr. Fischelis, it was voted to accept the report and refer the entire matter to a special committee of five members, to confer with the director and report at a later session. President Funk appointed Messrs. Fischelis of New Jersey, Winne of Virginia, Phelps of Arizona, Walton of Pennsylvania and Meissner of Indiana.

The committee submitted the following report at a later session:

"It is the unanimous opinion of the Committee that the conception of the task of the Department of Post-Graduate Study as presented by the Director is sound and that the activities

[1] See JOUR. A. PH. A. for May, pages 513–518.

of the Department are an important, necessary and valuable addition to the work of the NATIONAL ASSOCIATION OF BOARDS OF PHARMACY.

"In the light of the discussion on the Report of the Director, the following suggestions are offered for the consideration of the Executive Committee of the Association:

"1. That the Department of Post-Graduate Study be authorized to continue its activities until the next annual convention of this Association.

"2. That a change in the name of the Department be given serious consideration.

"3. That the Director be authorized to select an Advisory Committee of five members from among the members of this Association to act in an advisory capacity.

"4. That consideration be given to the matter of improving the typography of the bulletins sent out by the Department."

The report was accepted and referred to the Executive Committee for action.

The Executive Committee held a special meeting, at which these recommendations were considered and the following action taken thereon:

1. It was voted to continue the Department for the balance of the calendar year, with the exception that the bulletins be omitted for the months of June, July and August, in order to meet the budget. It was also felt that little attention would be paid to the bulletins during the hot weather season.
2. The title was changed to "Department of Education of the National Association of Boards of Pharmacy."
3. Suggestion approved.
4. Suggestion approved.

ANNUAL BANQUET.

At six o'clock on Monday evening, the N. A. B. P. held its annual banquet. Since the success of the Silver Anniversary banquet, this has become an established institution which everyone enjoys. The Hon. Herbert Levy, Assistant Attorney General for the State of Maryland, was the guest of honor and delivered a most interesting address on "Some Fundamental Principles in the Regulation of the Practice of Pharmacy."

Speaking of the efforts of some boards to equalize the supply and demand of practitioners in the various professions, he said:

"Economic considerations in the professions have never been recognized by the courts as sufficient ground for limiting the number of licentiates. A law recognizing such considerations would be held to be oppressive and unreasonable and a flagrant denial of individual rights. Examinations should be fairly designed to ascertain whether the applicant possesses an *average* amount of skill and training. They should not be devised to relieve economic pressure resulting from an overcrowding of the profession by excluding those who have the required competence but are unable to answer trick questions.

"Administrative boards in the exercise of their discretionary powers should not do indirectly that which cannot be done directly."

Mr. Levy also acts as legal advisor of the Maryland Board of Pharmacy, and his remarks on law enforcement are of particular interest and in harmony with what the N. A. B. P. has been advocating for years:

"If some things slip by from time to time which the law is not adequate to prevent, don't rush to the legislature and ask for additional legislation, because you will find that the more laws you have on the books the greater the number of things that slip by.

"When courts and juries and justices of the peace realize that what you are trying to do is to preserve the public health and safety and not subserve some selfish purpose, they are inclined to

act in accordance with the spirit rather than the letter of the law and technicalities are often brushed aside. But this is only true if it appears that your action is necessary to eliminate a menace to public health and is not intended to harness or unduly interfere with the exercise of private rights."

JOINT SESSION OF COLLEGES AND BOARDS.

After hearing reports on the Fairchild Scholarship and the Study of Pharmacy, the joint session of the boards and colleges discussed the "Status of Pharmacists who leave the U. S. Navy," Dean Jordan leading the discussion.

After discussing the amount of practical experience to be required with the four-year course which becomes effective for matriculation in 1932, it was voted and carried to recommend that at least twelve months of practical experience in a drug store under the direction of a registered pharmacist be required.

The status of pharmacy in states where the board of pharmacy has been merged with other professional boards in a consolidation licensing department was considered. After discussion by both board and college faculty members, it was found that the condition after consolidation is generally unsatisfactory, and a vote opposing the merging of all professional boards into one department was passed.

RESOLUTIONS.

The Committee on Resolutions referred some of the resolutions submitted to the Executive Committee and the Advisory Examination Committee for action. The following, however, were adopted by the convention upon report of the committee:

Resolved, that at least one year of practical experience be required in addition to the four-year college course in pharmacy.

Resolved, that a publicity committee be appointed at the 1930 national conventions, consisting of one member of the N. A. B. P. and one member of the American Association of Colleges of Pharmacy from each of the nine districts, as divided by the N. A. B. P., the committee to elect its own chairman, and present plans and means of putting them into effect at the 1931 national conventions for adoption.

AMENDMENT TO CONSTITUTION.

The Committee on Constitution and By-Laws submitted the following amendments to the constitution for consideration and vote at a subsequent session:

Amend Article II of the Constitution by adding a semicolon after the word "legislation" and then adding the following clause: "To improve the standards of pharmaceutical education and licensure by coöperating with State, National and International Agencies and Associations having similar objects."

Strike out Article VII and substitute therefor the following: "Amendments to this constitution shall be presented in writing at any session of the annual convention of the Association and, in case no objection to the amendment is heard, can be adopted at any subsequent session of the same convention by two-thirds of the accredited delegates present voting in the affirmative; in case of objection to the amendment, final action cannot be taken until the succeeding annual convention of the Association, at which time two-thirds of the accredited delegates present voting in the affirmative shall be required for adoption of the amendment."

The amendment to Article II was adopted at a subsequent session, but the amendment of Article VII was referred to next year's meeting.

ELECTION OF OFFICERS.

The Nominating Committee appointed at an earlier session—Messrs. Marsland of Connecticut, Vilas of South Dakota, Allen of Michigan, Hunter of Florida and Rothrock of Indiana—presented the following as nominees for officers of the ensuing year:

For *President*, W. M. Hankins, Florida; for *Vice-Presidents*, District No. 1, C. T. Gilbert, Connecticut; 2, L. N. Richardson, Maryland; 3, Clare Allen, Michigan; 4, George Sherman, So. Dakota; 5, S. M. Scott, Jr., West Virginia; 6, Mac Childs, Kansas; 7, J. D. Dumas, Alabama; 8, J. P. Murray, Colorado; 9, A. L. Phelps, Arizona; for *Secretary*, H. C. Christensen, Illinois; *Treasurer*, J. W. Gayle, Kentucky; *Member of Executive Committee*, John A. J. Funk, Indiana; *Member of Syllabus Committee*, Robert P. Fischelis, New Jersey.

The report of the Nominating Committee was accepted and L. L. Walton, of Pennsylvania, was instructed to cast a ballot for the officers nominated; whereupon they were declared elected. The new officers were then installed, and the twenty-seventh annual convention declared adjourned.

H. C. CHRISTENSEN, *Secretary*.

ROBERT HAMILTON WALKER.

In the passing of Robert Hamilton Walker, of Gonzales, Texas, on May 5, 1930, at the age of 71, the National Association Boards of Pharmacy has lost one of its pioneers, who made many personal sacrifices in the early days to further the cause of the Association.

Robert Hamilton Walker was born in Gonzales, July 7, 1858. His father had come to Gonzales in 1849 as a pharmacist and surveyor. The son was educated in Gonzales College, then graduated from Marietta College at Marietta, Ohio, in 1878, with a B.S. degree. An honorary Master of Pharmacy degree was conferred upon him by Baylor University, College of Pharmacy, Dallas, on April 26, 1910.

The son elected to follow in his father's footsteps and received all his drug store training and education under the tutorship of his father.

He served on one of the district boards of pharmacy in Texas, and later became a member and secretary of the state board of pharmacy, serving a total of 33 years in board work from 1889 until 1921 without interruption. In 1910, he was elected president of the Texas Pharmaceutical Association, and in 1911, at the Boston convention, he was elected president of the National Association Boards of Pharmacy, serving in that capacity for 1911–1912, and presiding at the Denver convention in 1912. The archives of the N. A. B. P. show the imprint of his personality and work.

In 1894, he retired from the drug business to enter a corporation furnishing water and light for the town of Gonzales, but remained interested in the profession and active in its associations until his strength failed.

He also took part in all the activities of his community and church, serving as church organist for 30 years, also a member of the choir, and Sunday School superintendent continuously from 1902 until the time of his retirement several years ago. Pharmacy as well as Gonzales has lost a faithful worker and friend.

THE DEPARTMENT OF THE AMERICAN ASSOCIATION OF COLLEGES OF PHARMACY

During last month, two schools dedicated buildings for the teaching of pharmacy; the principal addresses of the occasions follow. The first by Dr. Edward Kremers of the University of Wisconsin at the ceremonies of the University of Maryland School of Pharmacy, on May 10th, and the other by Dean Edward H. Kraus as part of the dedication program of Purdue University School of Pharmacy on May 20th. In both instances pharmacists and State Pharmaceutical Associations, by their encouragement, contributed largely to the success of the undertakings, and in one instance if not in both, the Governor of the state exhibited a deep interest, because of the importance of pharmacy in public health.—E. G. E.

ADDRESS BY DR. EDWARD KREMERS.*

WHEN Peter Lehmann in 1821 told his fellow druggist, Henry Troth, of Philadelphia: "Henry, this won't do, the University has no right to be taking our boys away at noon to make them M.P.'s"[1] he sounded the note of independence of the apothecary from the physician so far as the education of his apprentices was concerned. But he seems also to have struck the death knell of a pharmaceutical curriculum by the old colleges of the east. In 1893 the late President Elliot visited Wisconsin. Doctor Adams introduced your speaker to the veteran educator of Harvard as the "Dean of Pharmacy," a compliment that was cheaper than a corresponding salary. "As yet we have not undertaken to teach that subject" was Elliot's reply. To speculate on how different the history of pharmaceutical education in this country might have been, had Harvard, Yale, Princeton, not to include Johns Hopkins of more recent date, taken upon themselves to teach pharmacy, may be useless at the present time.

This much, however, we know: the druggists of Philadelphia, who had declared home rule in 1821, as soon as they began to look about for lecturers, realized their dependence upon medical men as teachers. We also know that for half a century, the "school" was but a "Fortbildungsanstalt," a continuation school. What the apprentice and clerk had learned behind the prescription counter and in the laboratory during the day, the lecturer attempted to systematize for them in several evening lectures during the winter months. To the credit of the Philadelphia College of Pharmacy be it said that it always took its "school" seriously, whereas some of the other colleges accomplished but little in this direction, or nothing at all.

For half a century the lecture system was about the only means of instruction used. It certainly was the cheapest. Moreover, it was justified by those who employed it because the student's real school was the drug store. The lecture summarized and supplemented the knowledge and experience there acquired. Whatever may be said about the classics and the humanities generally during this period scientific education and with it, the professional education of the engineer, the chemist, the physician, did not stand still. The shop of the engineer and the office of the physician had been replaced in large part by college laboratories.

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* Director of Pharmacy, University of Wisconsin.

[1] *Am. J. Pharm.*, 41, page 98.

Pharmacy was reluctant to follow. The drug store was still looked upon as the essential means of instruction. Moreover, laboratory instruction was costly and the old line colleges, being without endowment, were dependent almost entirely upon students' fees. It was Michigan that took the first step to substitute systematic laboratory instruction for the apprenticeship system which, for the most part, never had any great educational value for the simple reason that the average druggist of this country has never been an educated pharmacist. There were a few preceptors with whom an apprenticeship meant a liberal education, but they were few and far between.

When Michigan made application to membership in the old Conference of Colleges, she was refused admission because she did not demand drug store experience for graduation. Nevertheless, the example of Michigan was followed by other state universities. Moreover, the trend away from apprenticeship became more marked with each year. When, therefore, in 1900 the second Conference was organized, not one of college organizations, but of pharmaceutical faculties, the stone that had been rejected in the seventies was made the cornerstone, and Prescott was elected the first President of the Conference.

But even before this another step had been taken, which, so far as it did not remain unnoticed, received little else than ridicule. Thus the Dean of Northwestern, who, in the name of efficiency, had concentrated the former so-called two-year course into one calendar year, suggested that someone might be crazy enough—though he did not use this word—to offer an eight-year course. This criticism amused. But it did hurt when Professor Prescott replied to a question as to what he thought of the step: "It will do no harm." The young innovator had looked up to his venerable colleague for encouragement and had received a shrug of the shoulder. This was in 1893. Soon thereafter, President James, then of Northwestern, left his Evanston Campus to address the pharmacy students in Chicago. He told them that every boy and girl aspiring to become a pharmacist should take a four-year course at college. It was also a few years later that Professor Prescott wrote: "We are contemplating giving a four-year course. Upon looking over the catalogues we find that you are already giving such a course. What has been your experience?" When, in 1892, President Chamberlin asked me how many students I expected in the proposed four-year course, I replied: "Mr. President, I am not concerned with numbers, but with an ideal." To-day this ideal has become the practical. Georgia, Iowa, Minnesota, Michigan, Washington, and possibly others, have gone Wisconsin one better by making it the only undergraduate course. In a few years it will be the only course offered by the members of the American Association of Colleges of Pharmacy.

If Wisconsin allowed some of her sister institutions to take this final step first, for reasons that were local and need not be discussed here, she did not rest content with this beginning that placed pharmacy on a par with the other college courses on the campus. For it was but a first step to place the pharmacy course on the same academic footing with other courses leading to the A.B. and B.S. degrees. The graduate of the pharmacy course was no more to be looked upon as a full-fledged pharmacist than the graduate of the engineering course was accepted as an experienced engineer. As Dean Johnson put it so aptly: "Our graduates are not engineers, but men with a capacity to become engineers." So our graduates

were not turned out as pharmacists, but as men and women with a capacity to become pharmaceutical practitioners.

If we had succeeded in laying a foundation, broad and strong, the next step was the erection of the superstructure. This meant graduate, not post-graduate work. Graduate, not post-graduate study, implied the capacity to do independent work. This could best be taught by research. At first we were permitted to give the degree of Doctor of Philosophy with Pharmaceutical Chemistry as major. Pharmaceutical Botany under Dr. True, a recent disciple of Pfeffer, the noted plant physiologist at Leipzig, followed. When, however, we offered Pharmacy as major, a battle was on, a battle of which your present Dean can tell a story. Pharmaceutical chemistry, after all, was chemistry, and pharmaceutical botany was botany, but pharmacy, God forbid! If his colleagues of the Philosophical Faculty at Giessen had accused Liebig of introducing the methods of the kitchen into academic procedure, we were accused of doing something equally abhorrent or even worse. Had not a few years before a superintendent of public instruction, in his biennial report to the Governor, made the statement that the University would be justified in teaching how to make boots and shoes if she persisted in giving instruction in butter making and pharmacy. Well, strange things have happened educationally since the days of Liebig a hundred years ago. Not only did we win the fight but in 1926 the Department of Pharmacy had six successful candidates for the doctorate, five of whom took it with pharmacy as major.

Thus the highest degree given in course by any university is now being given without question to students who have pursued the graduate triennium in pharmacy.

But what of the practical results of this academic achievement? Without going into details, let us consider a few typical cases.

1. A Maisch could wait on the customers of his drug store during the day and lecture on botany and materia medica in the evening. During the winter months he attended to his duties as Dean of the Philadelphia College of Pharmacy and during the summer months to those as Secretary of the AMERICAN PHARMACEUTICAL ASSOCIATION. In addition, as editor, he published monthly issues of the *American Journal of Pharmacy*. To-day these offices are filled by five men. Not that the capacity of these five men had deteriorated. The offices call for different types of specialization. The good old times when a well-posted retail pharmacist with an itch to teach could be made a college professor by his friends have passed. The practice of pharmacy calls for one kind of training; the duties of the teacher demand a different kind of experience as well as a deeper and broader education.

2. There exists in this broad country of ours a college of pharmacy in a large industrial community. The pharmaceutical industries of that area have innumerable problems to be solved. However, the directors of these industries do not, for the most part, go to their college of pharmacy with their scientific difficulties. They go to the chemical laboratories of local and even distant universities for solutions of their larger research problems. Needless to state, that particular institution is still continuing exclusively along the older lines of undergraduate instruction.

3. The third attainment, if such it may be called, is even more negative in character. At the Indianapolis meeting in 1917 the perennial question of the status of the pharmacist in the Army and Navy was up for consideration. I

ventured to suggest that, in order to give pharmacists in Government service a status before the Civil Service Commission, an educational requirement of a four-year course leading to one of the accepted bachelor's degrees be demanded as prerequisite. Unfortunately for my suggestion, none of the eastern colleges at that time offered such a course, yet they were most interested in supplying prospective candidates for these positions. To-day the higher ranks of Navy pharmacists are again up for discussion before Congress. Interested as I am in advancing the position of the pharmacist in the Government, be it in its civil or military branches, I can but express my regret that those who are most ardently seeking to bring about this advancement, did not see fit to go a step farther. The pharmacist in Government service cannot expect full recognition until he presents himself with an educational background equal or superior to that of professional men in medicine, engineering, chemistry, botany. Your own dean, when in the Hygienic Laboratory doing the duties of pharmacist, not in the official but in the real sense, was listed in the civil service as pharmacologist. The official pharmacists were store keepers and, I am told, are such to-day. So long as this condition lasts, pharmacists in Government service will not receive that recognition which we so much desire. To our Government we must offer the very best educated of our young men and none else.

Please do not misunderstand me. The so-called self-made man, though he be not as common to-day as he was in the past, is still a man to be respected if not always admired. As the late President Roosevelt once put it: "The college graduate is not necessarily better than the non-graduate. He should, however, be better than he would have been without his four years of undergraduate experience on the college campus." The doctor of philosophy, as a German professor once put it, at least in a story told by the late President Ira Remsen of your Johns Hopkins University, may be nothing but an "Esel." Nevertheless, the bachelor and the doctor of our American colleges and universities have captured for themselves places, not only in our social fabric, but in industry, even in commerce. Medicine, law, engineering, journalism, chemistry, teaching, are no longer satisfied with the education and training characterized by the bachelor's degree, but demand that which is the equivalent of the master's degree and in not a few instances that which is the equivalent of the doctor's degree.

If there are "asses" among our doctors of philosophy, this fact has not changed the trend of the times. Pharmacy, it must be confessed, has not kept fully abreast with this change. However, the endowments which some of our older colleges have acquired, or the support which some of them, like your own, are now receiving from the state, are making possible this important change so far as our educational institutions are concerned. When once this change has become general, it will be translated into universal practice, though that may require a generation and more before it can be fully accomplished.

In this transition stage, the old Maryland College of Pharmacy with its fine traditions of a Caspari, a Simon, a Culbreth, and with its present status as an integral part of the University of Maryland, endowed with two millions of tax payers—to borrow a phrase of the late Governor Peck of Wisconsin, better known to most people as author of Peck's Bad Boy—is bound to play an important rôle. The fine building, the dedication of which we have come to celebrate, will afford

an admirable physical background for the work it is to accomplish. Its faculty is full of promise of the right spirit to bring to a successful accomplishment the new undertaking. Its alumni and friends, while true to the memory of the past, will, no doubt, enter into this new spirit with enthusiasm. I am convinced that this new institution, the cornerstone of which, figuratively speaking, we have laid today, will develop into an educational structure the influence of which will be felt not only in this good city of Baltimore, not only in this great commonwealth of Maryland, but throughout the length and breadth of this our native land.

THE DEVELOPMENT OF PHARMACEUTICAL EDUCATION.*

BY EDWARD H. KRAUS.[1]

The dedication of a new building by an educational institution is always the occasion of great rejoicing for long cherished hopes and plans have finally been realized. Purdue University and the pharmacists and citizens of the State of Indiana are all to be congratulated upon the completion of this beautiful and unusually well-equipped structure, devoted entirely to the profession of pharmacy. Additional floor space and improved facilities generally bring, however, the responsibility of serving the state and the nation in an enlarged way. Knowing rather intimately, as I do, the important contributions of Purdue University and of the pharmacists of the state to the advancement of the profession, I am confident that this new responsibility will be fully met and that in Indiana Pharmacy will now be able to function in a much more effective way as one of the great agencies in the conservation of health.

The story of the development of pharmaceutical education in the United States is strikingly similar to that of the other disciplines concerned with the conservation of health, medicine and dentistry. In all of these fields the preceptorial or apprenticeship system first prevailed, which in each case was slowly, and only by overcoming much persistent opposition, replaced by systematic instruction.

Although the first American College of liberal arts was established in 1636, more than a century and a quarter passed before the first medical school was founded. This was in Philadelphia in 1765. During the following one hundred years there was a rapid increase in the number of medical schools for it is reported that there were fifty in 1870.

There is abundant evidence that the practice of pharmacy flourished during the colonial period but systematic training in this subject lagged behind medicine for it was not until 1821 that the Philadelphia College of Pharmacy was organized. The opening of this institution, the oldest of the colleges of pharmacy in the United States, stimulated interest in pharmaceutical education in Boston and New York and, in 1823, the Massachusetts College of Pharmacy was founded in the former place while a little later the New York College of Pharmacy opened its doors. These were the only three institutions giving instruction in pharmacy in this country in 1850.

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* Delivered May 20, 1930, at the dedication of the new building of the School of Pharmacy of Purdue University.

[1] University of Michigan.

The first attempts to teach dentistry were made much later than was the case with medicine and pharmacy and it was not until 1837 that Hayden gave the first series of lectures on dentistry to be delivered in the United States. These were given to the students of medicine at the University of Maryland. But the importance of such systematic instruction was not appreciated by the medical faculty of that institution and the lectures were not repeated. Hayden and his associates, however, persevered, and in 1840 were able to organize the Baltimore College of Dental Surgery, the first institution of its kind to be established in this country. At first dental education made very slow progress and twenty-five years later there were but four colleges devoted to this phase of health education.

The early colleges of medicine, dentistry and pharmacy were proprietary in character. They were conducted by local groups of men with but little academic training, who attempted to teach poorly prepared students a body of knowledge, much of it unsound, that they had acquired largely through experience. In fact, many of these colleges were conducted for profit to those in charge, either in cash or in increased prestige. Furthermore, these institutions were poorly housed with no facilities for demonstration and laboratory instruction in the modern sense.

When it is remembered that the Boston English High School, which opened its doors in 1821, was the first American high school as we understand that great educational institution to-day, and that the academies of the early part of the last century were by no means numerous, it is at once obvious that the preparation of the students entering these early institutions was very scant. Moreover, the period of training at these professional colleges was extremely brief and, as already stated, the instruction very poor. In fact, even as late as 1870 the teaching of medicine in this country was considered a social disgrace, for at Harvard and other leading universities only two courses of lectures consisting of four months each were required for graduation. Degrees of Doctor of Medicine were generally granted upon the passing of a nominal examination and upon the presentation of evidence of having read medicine for three years including the time spent at college. Indeed, only sixty years ago the admission requirements were so low that at Harvard written examinations were considered impossible because most of the students of medicine could not write well enough.

It was at this period in the development of the health professions that a new day began to dawn, for about 1870 a great movement for the improvement of medical education was launched, largely under the leadership of C. W. Eliot, who had just been elected to the presidency of Harvard University. Then, too, at the same time many of the universities of the country began to realize the importance of more adequately serving the public by offering instruction in dentistry and pharmacy. To Harvard University also belongs the credit of establishing the first school of dentistry to be coördinated with a recognized institution of learning. This was done in 1867. A year later the first courses in pharmacy to be offered in an institution other than one established solely for that purpose were given at the University of Michigan under the leadership of that wise and far-sighted pharmaceutical educator, A. B. Prescott. This instruction was so successful that in 1876 the University of Michigan raised pharmacy to the level of medicine and law by establishing what was then called the School of Pharmacy. Other universities soon followed the lead taken by Michigan and began to offer instruction

in pharmacy, thus at the University of Wisconsin in 1883, at Purdue University in 1884, at the Universities of Iowa and Kansas in 1885 and at the University of Minnesota in 1892.

While sixty years ago the requirements for admission to and graduation from colleges dedicated to the promotion of the three health professions were all on a very low level, to-day the differences are quite marked. As is commonly known, medical education has advanced most and at present six or seven years beyond the high school are required for graduation from an accredited college of medicine, two or three years of collegiate study being demanded in preparation for the professional training for four years. Dental education has also made splendid strides and to-day one or two years of collegiate training are required in preparation for the professional work which extends over periods of three or four years. In general five years beyond the high school are necessary to meet the requirements of approved dental colleges.

But let me hasten to remind you that many of these advances were stimulated and materially aided by agencies outside of these professions, for we all know that the famous Flexner report, sponsored and published by the Carnegie Foundation for the Advancement of Teaching during the first decade of this century, created a great stir in medical circles and at once led to profound changes for the better. Furthermore, the critical and constructive study of dentistry conducted more recently under the same auspices by Dr. W. J. Gies has been the means of marked advances in that profession.

Unfortunately pharmacy, the mother of both medicine and dentistry, has permitted her progeny to outdistance her in educational achievement and consequently in the recognition given at present to these health professions by the public. Pharmaceutical educators have, however, been exceedingly active in recent years and have succeeded in materially advancing educational and legal requirements, thereby greatly improving the status of professional pharmacy. A brief survey of some of the splendid achievements in pharmaceutical education may not be out of order on an occasion such as this.

In the early seventies of the last century there were but eleven colleges of pharmacy in this country, but by the opening of the twentieth century the number had increased fivefold, namely, to fifty-six. During this thirty-year period various attempts were made to organize these institutions into an association for the purpose of improving the character of the instruction. These efforts did not succeed, however, until 1900 when the American Conference of Pharmaceutical Faculties was organized in Richmond, Virginia, by the representatives of twenty-one institutions. This young association immediately attempted to raise standards but there soon developed a sharp division of opinion, as well as marked differences in educational ideals, between the representatives of the proprietary or private institutions and those from the colleges that are integral parts of great universities and more especially of the state universities.

The great need for educational advancement was clearly seen by the university group but, being in the minority, their efforts in this direction were usually thwarted or retarded. It was also recognized at this time that not only must higher educational standards be adopted but that the legal requirements for licensure to practice pharmacy must also be advanced. A very important forward step in this direction

was the organization of the National Association of Boards of Pharmacy in 1904. Since that date those entrusted with the collegiate training of young pharmacists and those responsible for establishing and enforcing the legal professional requirements in the various states have met in annual meetings and in recent years in joint sessions for the discussion of problems of mutual interest and concern.

Only thirty years ago many of the colleges of pharmacy admitted students who had not progressed beyond the elementary or grammar school. While the crying need for better prepared students was clearly recognized, progress came slowly, for the advancing of educational standards is usually a long process. These young national organizations, however, immediately began to correct this deplorable condition and in 1905 one year of high school preparation was made an absolute requirement for admission to college. A movement was also started to advance the legal requirements and to New York belongs the credit for being the first state to demand graduation from a college of pharmacy as a prerequisite for admission to practice the profession. This action was also taken in 1905.

At that time the standard length of the college course in pharmacy was but two years. Then, too, the content of the course varied greatly. Hence, a concerted effort was made to evaluate the character of pharmaceutical instruction given in the various colleges. This effort soon resulted in the development of the Syllabus, the first edition of which appeared in 1910. This instructional guide was soon adopted in part, or as a whole, by a majority of the examining boards of the various states and by a large percentage of the colleges of pharmacy.

It was also during this decade that one of the illustrious members of the early faculty of Purdue University, Dr. Harvey W. Wiley, led a successful movement for better food and drug laws. With the enactment of the Food and Drugs Act in 1906 the United States Pharmacopœia and the National Formulary became standards of the federal government. These actions naturally greatly stimulated interest in scientific pharmacy and pharmaceutical education.

The second decade, 1910 to 1920, also saw much progress. Thus in 1915, the minimum admission requirements to the colleges in general were advanced to two years of high school preparation. At the same time several of the colleges affiliated with state universities voted to admit only high school graduates. It was also during this period that the university point of view began to prevail in the deliberations of the national pharmaceutical organizations and consequently further educational advances came more rapidly. Accordingly, in 1917 the American Conference of Pharmaceutical Faculties, since 1925 known as the American Association of Colleges of Pharmacy, and the National Association of Boards of Pharmacy voted that beginning with the fall of 1923 high school graduation should be required of students seeking admission to colleges of pharmacy. And only three years later, namely, in 1920, these organizations agreed that in 1925 one year should be added to the instruction, that is, the college course be increased from two to three years. Indeed, a strong feeling already prevailed that a further increase to four years of college training should be made as soon as possible after 1925.

During the early years of the third decade some opposition to these higher standards developed especially on the part of a group associated with proprietary colleges or with those only loosely affiliated with well-established educational

institutions. For a time it seemed that this opposition might lead to the rescinding of some of the actions of the national associations or at least to the postponing of the dates on which the new requirements should become effective. The representatives of a majority of the member colleges were, however, steadfast and educational progress continued.

When the minimum three-year course became effective in 1925 a very active agitation immediately began in favor of advancing the requirement for graduation from a three-year course to one four years in length. This question was discussed seriously at the annual meetings and in 1928 the long hoped-for action was taken requiring all colleges holding membership in the American Association of Colleges of Pharmacy to institute the four-year course as the minimum requirement for graduation for students entering in the fall of 1932. This was very gratifying, indeed, to the advocates of higher standards especially since the action was taken without a dissenting vote. This advanced requirement subsequently received the endorsement of the National Association of Boards of Pharmacy.

That there has been a very sincere urge for these advances is clearly indicated by the fact that many institutions desire to anticipate the date at which the requirements of the national organizations are to become effective, for in approximately one-third of the member colleges the four-year course will become obligatory for freshmen entering this fall.

Sentiment in favor of the four-year curriculum was greatly stimulated by the Charters report on *Basic Material for a Pharmaceutical Curriculum* published in 1927. This careful and discriminating study was begun in July 1923. It was conducted under the auspices of the Commonwealth Fund by Dr. W. W. Charters, now of Ohio State University, a keen, impartial observer and an experienced investigator. Although Dr. Charters confined his investigations chiefly to the functions and responsibilities of the neighborhood pharmacist, his observations on other phases of the profession and upon pharmaceutical education were most significant. Especially his pronouncments concerning pharmacy as a profession and on the length of the curriculum necessary to impart the required body of knowledge made a profound impression.

That the Charters' report materially assisted in obtaining favorable action for the longer curriculum, there can be no doubt. Moreover, in organizing the four-year course, his findings will be of great assistance to those institutions in which the longer course has not yet been offered. In fact, we are justified in saying that one of the very valuable contributions to the advancement of the profession during the last decade was this searching study carried on by Charters with the assistance of a selected group of pharmaceutical educators.

This review of the progress made during the ten-year period 1920–1930 shows that in some colleges of pharmacy the requirement for graduation has been increased four years, that is, two years have been added to the period of preparation and two more to the collegiate course. This is truly a noteworthy achievement of which those who have been interested in advancing the status of the profession of pharmacy may be justly proud.

I am sure that many in this audience will be pleased to know that the College of Pharmacy of Purdue University has always urged higher educational standards and that for two decades your able and energetic Dean has constantly advocated

educational advances. Moreover, due to his ability as a leader he has been a most important factor in securing the adoption of these progressive measures. To him great credit is due for the signal service he has rendered.

That these higher standards have had a marked effect upon the quality of the student now entering our colleges of pharmacy is clearly shown by the fact that of those admitted in the fall of 1929 sixteen per cent had had some previous college training. This tendency toward college training before entering upon the study of the more professional aspects of pharmacy has caused some of the leaders to advocate a five-year course, similar to that now obtaining in dentistry. It is suggested that the five-year period of study be conducted on either the one- and four- or two- and three-year plan, that is, that one or two years of collegiate training be demanded as a prerequisite for the professional study covering periods of either three or four years.

While it is very fitting that suggestions of this character should be made at this time, action to increase the requirements beyond those which will not become fully effective until 1932 should by all means be postponed. It is highly advisable that the general effects of the four-year curriculum should be carefully studied before another advance is made. Moreover it is by far more imperative, that the legal requirements for licensure keep pace with the educational. While material progress has been made in this regard, much remains to be done for at present there are still twelve states in which no college training is demanded as a prerequisite for admission to the examination for licensure.

Closely related to the collegiate prerequisite for licensure is that of required practical experience. In some instances, college training is deemed sufficient while in others the sentiment of practicing pharmacists seems to favor insistence upon practical experience as vitally essential. Recently the officers of the board of pharmacy of one of our eastern states suggested the requiring of one year of interneship in an approved pharmacy as an efficient way of ensuring the high quality of the men and women who are to be permitted to practice the art of compounding and dispensing medicines. That questions of this character are also being considered at this time clearly indicates that all concerned with the future of pharmacy are by no means satisfied with present conditions and are eagerly striving to improve the status of the profession.

While on the one hand pharmaceutical educators have been greatly concerned with increasing the time devoted to the academic and collegiate preparation of those desiring to enter the profession, they have also, on the other hand, been striving to improve the character of the instruction given in the colleges of pharmacy by strengthening the teaching staffs and the instructional facilities.

Thus, until quite recently, it was common practice in many colleges to appoint as instructors recent graduates of the shorter two- or three-year college courses. With the raising of the standards to be met by the students, it at once became obvious that the qualifications to be demanded for appointment to teaching positions in our colleges of pharmacy must be advanced materially. Administrators were therefore urged to exercise the greatest care and to select only thoroughly trained men. As a minimum requirement it was suggested that not only should a standard four-year course of professional training have been completed, but also that several years of graduate work should be demanded when making new ap-

pointments. It was further recommended that some graduate study should be insisted upon as a prerequisite for promotion, especially in rank. Marked improvement in this regard is already to be observed for the demand at present for professionally trained men with Master's and Doctor's degrees to fill vacancies in the colleges of pharmacy of the country is very much greater than the supply.

In 1927 a very important action was taken by the American Association of Colleges of Pharmacy which at once proved very effective in raising the quality of the teaching staffs in many of our colleges. Furthermore, it has also been of great service in securing better class room, laboratory and library facilities. I refer to the triennial visitation of the member colleges by leaders in pharmaceutical education. During the three years the plan has been in operation all colleges of the Association have been visited.

In carrying out the plan a very representative group, fifteen in all, of the older and trusted leaders of the profession has been called upon to make these important visits. Obviously a group of this character was bound to make a profound impression upon the rank and file of the colleges visited. The results have been most gratifying and the plan is to be continued. I am confident that during the next triennial period even greater progress may be expected from these visitations.

Another recent development which should prove of unusual significance to pharmacy is the proposed nation-wide survey of the colleges of pharmacy and of the profession as a whole. This movement originated with the officers of the National Association of Boards of Pharmacy who had long recognized the great need of some means of better evaluating the instruction given by the various colleges. Accordingly, in 1927, that Association appropriated the sum of $10,000 for a study of the colleges to be conducted with the coöperation of representatives of the educational institutions. When the joint committee met to discuss plans it was pointed out that the time had come when a really comprehensive survey of pharmacy in its various phases should be undertaken. Accordingly, resolutions were passed favoring a larger survey to be conducted under the auspices of the three national pharmaceutical associations interested in pharmaceutical education, in the legal requirements and in the profession as a whole.

In due time the proposed comprehensive survey was approved by the American Association of Colleges of Pharmacy, the National Association of Boards of Pharmacy and the AMERICAN PHARMACEUTICAL ASSOCIATION. These three organizations also pledged themselves to support the survey financially and to contribute jointly over a period of three years sums which will total approximately $48,000.

In order that this survey may be as authoritative as possible, and be so recognized the country over, experts in the conduct of educational surveys were called into consultation with the result that the American Council on Education voted to sponsor this investigation. A committee of representatives of the three associations and of the Pharmaceutical Syllabus Committee has had several meetings with Director C. R. Mann and his associates, of the American Council on Education, as well as with such nationally known experts on surveys as Chancellor S. L. Capen, of the University of Buffalo, President G. F. Zook, of the University of Akron, and Dr. W. W. Charters. As the preliminary plans for this survey call for a budget

somewhat larger than the total sum to be raised by the three pharmaceutical associations, efforts are now being made to interest some of the great educational foundations in this important project. There is no doubt in the minds of the members of the joint committee but that sufficient funds will be forthcoming for this undertaking.

It is greatly to the credit of the pharmacists of the country that this proposed survey originated within their group and that they are loyally and enthusiastically supporting it financially in a substantial way. When completed this survey should make as profound an impact upon pharmacy in this country as the similar surveys of medicine and dentistry made upon those professions.

A review of the development of pharmaceutical education in this country cannot be brought to a close without referring to the splendid contributions made by the great pharmaceutical manufacturing plants to scientific pharmacy and to the effective support given by many of them to the fostering of pharmaceutical investigations at our leading institutions of higher education. The establishment by them of scholarships, fellowships and special research grants has been of inestimable value in encouraging meritorious students, many of whom are pharmaceutically trained, to continue their work leading to the higher degrees. In many instances this action has also brought about a much closer relationship between the educator, the manufacturer and the special investigator than would otherwise have been possible. It is to be sincerely hoped that this interest in pharmaceutical education and the sponsoring of special investigations will be continued by our leaders in manufacturing pharmacy.

At present the future of the community pharmacist is highly problematical. Many who were well informed on the development of pharmacy and its present trends are of the opinion that we are on the eve of rather profound changes in retail pharmacy. It is not my intention this afternoon to discuss this phase of the profession. I am, however, confident that pharmaceutical educators will adequately meet the challenge of any changed conditions within the profession, whatever they may be. I am also confident that, as the result of the enormous progress that has been made during the last thirty years, and more especially during the last decade, in advancing educational and professional requirements and in improving the instructional staffs and teaching facilities, the importance of the profession of pharmacy will be more adequately recognized and that pharmacy, along with the allied health professions of medicine and dentistry, will play an ever-increasing rôle in the conservation of health.

Purdue University and the pharmacists of Indiana are to be congratulated upon the completion of their magnificient new building, which will enable them to contribute in an even larger and more effective way than in the past to the development of the profession of pharmacy.

PHARMACY AT THE 1933 WORLD'S FAIR.

The National Research Conference, at its meeting in Washington, endorsed a Pharmacy Exhibit, under the auspices of the AMERICAN PHARMACEUTICAL ASSOCIATION, at the World's Fair, to be held in Chicago, in 1933. The exhibit is to be historic, depicting the development of pharmacy.

PROCEEDINGS OF THE LOCAL BRANCHES

"All papers presented to the Association and Branches shall become the property of the Association with the understanding that they are not to be published in any other publication prior to their publication in those of the Association, except with the consent of the Council." —Part of Chapter VI, Article VI of the By-Laws.

ARTICLE III of Chapter VII reads: "The objects and aims of local branches of this Association shall be the same as set forth in ARTICLE I of the Constitution of this body, *and the acts of local branches shall in no way commit or bind this Association, and can only serve as recommendations to it.* And no local branch shall enact any article of Constitution or By-Law to conflict with the Constitution or By-Laws of this Association."

ARTICLE IV of Chapter VII reads: "Each local branch having not less than 50 dues-paid members of the Association, holding not less than six meetings annually with an attendance of not less than 9 members at each meeting, and the proceedings of which shall have been submitted to the JOURNAL for publication, may elect one representative to the House of Delegates."

Reports of the meetings of the Local Branches shall be mailed to the Editor on the day following the meeting, if possible. Minutes should be typewritten, with wide spaces between the lines. Care should be taken to give proper names correctly and manuscript should be signed by the reporter.

CHICAGO.

The 190th meeting of the Chicago Branch of the AMERICAN PHARMACEUTICAL ASSOCIATION was held at the University of Illinois School of Pharmacy, April 18th, President Hynes in the chair. Preceding the meeting there was an informal dinner held at the LaSalle Hotel, attended by twenty-five members.

After calling the meeting to order, President Hynes introduced the speaker of the evening, Dr. John C. Krantz, Jr., who addressed the Branch on "Hydrogen-Ion Concentration, Its Relation to Pharmacy."

"In 1887 the University of Stockholm introduced the theory of ionization to the scientific world. A molecule is composed of electrolytes which when dissolved have independently charged ions, and it is on these, their nature and number, that the physical and chemical properties of a substance are based. HCl is based on the amount of (OH) consuming power it has in the form of (H). The Dutch devised a scheme of stating this power and expressed it in normality. H_2O is a solvent and ionizes but slightly into (H) and (OH) ions. It takes 10,000,000 liters of water to contain 1 Gm. of (H) ion. This seems negligible, but it is of great importance. According to Sorensen the system of designating hydrogen-ion concentration is this: $p_H = -\log. (H)$. If the normality of a solution and its degree of ionization are known, the hydrogen-ion concentration can be calculated easily. Use HCl for example, which we know hydrolyzes 84 per cent. Calculations for it are:

$N/10$ sol $\times$ 0.84 = 0.084
8.4×10^{-2}
$0.92 - 2 = -1.08$
$p_H = -(-1.08) = 1.08.$

"Water has a p_H of 7. This fact is very important to the bacteriologist and the physician for it must be considered in making solutions. By knowing the p_H of soils botanists are able to obtain better results from their gardens.

"A solution of eserine sulphate or salicylate will turn pink or red on exposure to light. This solution has a p_H of 6. The red color is undesirable and the possibility of preventing it presents itself. Can this be done by changing to p_H of the solution? Experiments have been carried on along this line and results show that a greater degree of stability may be obtained in this manner. While ordinarily solutions turn pink in six or seven days, when the p_H has been raised the solutions may be kept from 50 to 60 days without any change of color taking place. It so happens that when the solutions turn pink or red CO_2 is given off. The logical thing to do then to prevent this is to force CO_2 into the solution, and that is just what is done; the red color does not form and the solution does not decompose.

"In preparing emulsions for testing, cottonseed oil, mineral oil, HCl and NaOH were added in various quantities, the p_H ranging from 0.3 to 13.4, the latter in the cases where strong alkalies had been used. To the solutions of various quantities of acids and alkalies it was found that whenever a solution of

acacia was made the p_H of the solution was not the same as that of the solvent. From this developed the theory and knowledge that acacia has a capacity to absorb or buffer. Tragacanth forms a hydrate with water and makes a most permanent emulsion or gel. This has a p_H of 1.8. To find the buffer capacity of acacia, moles of HCl were added to the solutions of acacia. The greater the quantity of acid used, the lower the p_H of the solution. Following is the calculation of the amount added per L mole of HCl:

$$B = \frac{-dB}{-dp_H} = \frac{-0.04}{-1.18} = 0.034.$$

It has been found that the buffer capacity of tragacanth is not as great as that of acacia, the latter not only having a great capacity, but also a very definite one.

"Digitalis has been studied more than any other galenical in the U. S. P. Since Dr. Withering wrote the first paper on it in 1785 thousands of papers have been prepared on its various preparations. It has been found that if the tincture is made acid by the addition of tartaric acid the stability is greatly increased. Sorensen has suggested the use of secondary sodium citrate. To this solution of the active principles of the drug is added HCl (having a p_H of from 1–8), yet the finished product has a p_H of 5.6–5.7 and the control or blank tincture has a p_H of 5.7. This shows that there is something in the tincture provided by nature capable of buffering. Tincture of Digitalis also has the power of absorbing alkalies as well as acids, but when an alkali is added the tincture deteriorates more rapidly. It was found that it has a buffer capacity of 0.009. In other words, it requires 90 cc. of $N/10$ HCl to change the p_H of 1 L of Digitalis from 5.75 to 4.75. The buffer capacity against alkali is stronger than that against acid, for it requires 120 cc. of $N/10$ NaOH to change the p_H from 5.75 to 4.75.

"The German Pharmacopœia has a Tincture of Digitalis made from absolute alcohol. This product when evaporated yields no ash, while that of the U. S. P. yields 17 mg. per 10 cc. This ash has been found to be composed chiefly of potassium salts. A tincture of low p_H is of low heart tonic value.

"Lastly p_H plays an important part in alkaloidal assay work. Pure alkaloids of cinchona were dissolved, the solutions being about 7% strength. These were just neutralized with acid. As the alkaloid is reduced, the solutions become more acidic, but not in proportion to the different alkaloids present. A sample was taken and 12 assays made to determine the amount of alkaloid in the crude drug. Twice the amount of etheral solvent was used. A half quantity was taken, dissolved in 0.1 cc. of acid and diluted. The p_H was found to be 4. According to the chart prepared should be a solution of 5.2% alkaloids, which is a fact. It is well within the P. E. of the U. S. P. Other percentage strengths show a gradual even change in p_H by which then can be determined the alkaloidal strengths of the solutions."

Following the lecture Dr. Fantus gave a few words regarding the subject. His opinion of the heart action of potassium salts as referred to by Dr. Krantz is this. This action may be obtained from potassium salts only when they are injected, not when taken by mouth, so the potassium ash yield does not affect the heart action of the tincture when it is given. While the experiments carried on were not hypodermic, yet they were similar, so that the effect was practically the same.

Dr. Geo. Beal, of the Mellon Institute, spoke of the universal use of hydrogen-ion concentration. Although the tanners do not know its meaning, they do know that it plays an important part in the plumping of leather; the laundryman knows that his blue rinse water must have a certain p_H or the clothes will not be white; the paper manufacturer knows that his sizing must have a certain p_H or the paper will not be evenly sized. Perhaps none of these groups know what p_H is, but they do know its importance.

Following the discussion a rising vote of thanks was given Dr. Krantz.

"The formation of the state associations was but the beginning of the work which this organization (the A. PH. A.) has done to touch the life and the problems of the individual pharmacist. The present set-up of the ASSOCIATION'S activities is simply a translation into practice of its original purpose and desire. Comparative recent trends of thought, culminating first in the creation of the House of Delegates and later in the establishment of the Conference of State Pharmaceutical Association Secretaries and of the Conference of Pharmaceutical Law Enforcement Officials, are emphatic of the resourcefuness and responsiveness of this ASSOCIATION. The significance of these developments is made profoundly important when their relationship to the individual pharmacist is seen."—From Chairman's Address, House of Delegates, A. PH. A.

COMMITTEE REPORTS

REPORT OF THE VITAMIN ASSAY COMMITTEE OF THE AMERICAN DRUG MANUFACTURERS' ASSOCIATION—NINETEENTH ANNUAL MEETING—APRIL 1930.

BY DR. ARTHUR D. HOLMES, CHAIRMAN.

Historical.—The Vitamin Assay Committee was created at the 1927 Convention of the American Drug Manufacturers' Association and provision was made that it should function as a Sub-Committee of the Scientific Section. The members of the original Vitamin Assay Committee were Eli Lilly & Co. (Dr. H. W. Rhodehamel); Parke, Davis & Co. (Dr. A. D. Emmett); E. R. Squibb & Sons (Mr. H. A. Holaday); and the E. L. Patch Company (Dr. A. D. Holmes, Chairman). The first meeting of the Committee was held in Detroit, September 1927. Dr. E. H. Volwiler, Chairman of the Scientific Section, and all members of the Sub-Committee were present.

At the first conference of the members, a laboratory procedure for the study of the U. S. P. X vitamin A method was agreed upon. After several months of intensive work, the Committee met in New York and correlated and summarized the results that had been obtained. A report of those results was presented before the Scientific Section at the American Drug Manufacturers' Association Convention, April 1928. In accepting the report, the Association made provision for the continuance of the Committee and increased the scope of its activities to include a study of method for assaying cod liver oil for vitamin D. The association also accepted the recommendation of the Committee to increase the minimum vitamin A (U. S. P. X) value from 50 to 250 units per Gm.

At this time, the Committee felt that it was desirable to correlate its activities with the investigations of the officials of the Drug Control Laboratories of the Food and Insecticide Administration. Accordingly, a conference of the Committee and the Drug Control officials was held in Washington, July 1928. A program of research was outlined which was to be carried on by the members of the Vitamin Committee and by one or more of the Federal Laboratories. Unfortunately, due to lack of appropriations, the Federal Laboratories were unable to coöperate.

In order to coördinate the interest of as large a group as possible in this project, the Contact Committee invited the Vitamin Assay Committee to attend its December 1928 meeting in Washington. The Vitamin Committee summarized its investigations to that date and at the request of the Contact Committee reported the nature of its investigations to the three organizations constituting the Contact Committee, namely: The American Drug Manufacturers' Association, The American Pharmaceutical Manufacturers' Association and the officials of the Drug Control Laboratories. At this time the Contact Committee voted that beginning with September 1929, all member firms of the A. D. M. A. and the A. Ph. M. A. adopt uniform statements for expression of the Vitamin A content of cod liver oil on labels, namely, units per Gm. of oil.

Investigations were continued until April when the Committee met at Columbus, Ohio, to coördinate the results obtained by the various laboratories represented. A report of the year's investigation was submitted at the Annual Meeting held in Asheville, N. C., April 1929. Inasmuch as the results that had been obtained indicated the need for further study, the Association reappointed the Vitamin Assay Committee. Subsequently, the Frederick Stearns Company kindly offered to coöperate and a representative of their Research Laboratory (Mr. R. L. Jones) was added to the Committee.

At the Annual Meeting, the Association authorized the Committee to solicit assistance from any member firms who were in a position to contribute to this problem. Thereupon, the Committee addressed a letter to member firms maintaining Research Laboratories equipped for vitamin studies. As a consequence, the Abbott Laboratories (Mr. C. Nielsen) has been associated with the Committee during the past year.

Discussion.—As the investigation progressed, it became evident that certain modifications should be made in the above-outlined procedure. Due to the extensive study that has been made by this committee during the past three years on the development of a better vitamin A method and the formation of a vitamin D method, the changes introduced have been felt desirable and of a definite constructive nature. In other words, as a result of our efforts, at the final conference of the Vitamin Assay Committee, which was attended by representatives of all labora-

tories participating in the investigation, it was agreed that the procedure which is outlined below be recommended as a satisfactory method for determining the vitamin A and vitamin D content of cod liver oil and related products. Accordingly, your Vitamin Assay Committee suggests the adoption of the following vitamin A and vitamin D methods realizing, of course, that as time goes on, further modifications will be necessary.

VITAMIN A AND D ASSAY FOR COD LIVER OIL AND RELATED PRODUCTS—APRIL 1930.

I. Vitamin A.—Cod liver oil may be assayed for its vitamin A content by the following process or method. When so assayed the oil shall contain at least 250 vitamin A units per Gm.

This assay is based upon the estimation of the minimum amount of cod liver oil necessary to meet specific growth-promoting as well as relative antiophthalmic requirements in a standard test animal kept under definite control as regards source, age and food supply. The test animal shall be albino rats from known source and bred preferably under the direction of the experimenter.

The vitamin A potency of cod liver oil shall be expressed in units per Gm. of oil, the unit to be the minimum daily amount (in mg.) of cod liver oil required to cause, in sixty per cent of the animals in any one group, a gain in weight of at least 15 Gm. within a period of thirty-five days under the conditions of growth and diet specified in this assay. The maximum weight must be attained at the end of the test and the eye condition must be corrected by an amount of cod liver oil not to exceed three times the minimum growth factor.

The vitamin A content per Gm. of cod liver oil is computed by dividing 1000 mg. (1 Gm.) by the determined minimum daily amount of oil, in mg., required to induce the requisite growth recovery.

Method.—It is desirable that each laboratory should establish its own breeding colony or else secure rats under known conditions as to age and dietary history.[1]

To obtain suitable test rats for vitamin A and D assay, females from the colony should be used to rear the actual test animals. These females should be taken off the colony diet as soon as weaned and fed the Breeders' Diet below. Later, they are placed on a restricted diet as stated elsewhere.

BREEDERS' DIET.

Wheat meal (entire kernel)	33.0%
Yellow corn meal (entire kernel)	33.0%
Whole milk powder	21.0%
Old process linseed oil meal	7.0%
Alfalfa leaf flour (green color)	4.0 %
Calcium carbonate ($CaCo_3$)	0.5%
Sodium chloride (NaCl)	0.5%

[1] The following well-balanced diet, rich in vitamins, has been found satisfactory as a colony diet:

COLONY DIET.

Wheat meal (entire kernel)	33.0%
Yellow corn meal (entire kernel)	33.0%
Whole milk powder	21.0%
Old process linseed oil meal	7.0%
Alfalfa leaf flour (green color)	2.0%
Liver (boiled and dried)	2.0%
Calcium carbonate ($CaCo_3$)	0.5%
Sodium chloride (NaCl)	0.5%
Cod liver oil (of high vitamin assay)	1.0%

The ingredients of all diets should be ground fine enough to insure a uniform mixture. The diet, with the exception of the whole milk powder and the cod liver oil, may be mixed in large quantities and the milk powder and cod liver oil should be added to such portions as will be consumed in about one week.

This Colony Diet must be supplemented daily by the addition of fresh green leafy material. An approximate allowance of about 5 Gm. daily per rat of this material should be sufficient. Boiled bone or other hard material should be supplied occasionally for gnawing.

This diet must be supplemented daily by the addition of fresh green leafy material preferably lettuce or spinach, about five Gm. being sufficient per rat per day.

When about 100 days old, the females are mated with males which are continuously maintained on the Breeders' Diet. When the young are five to seven days old, the litters should be adjusted to seven animals for each female. On the tenth to twelfth day the mothers are given the Vitamin Restricted Diet, without any green stuff.

VITAMIN RESTRICTED DIET.

Wheat meal (entire kernel)	33.0%
Yellow corn meal (entire kernel)	34.0%
Skimmed milk powder	21.0%
Old process linseed oil meal	7.0%
Yeast (dried)	4.0%
Calcium carbonate	0.5%
Sodium chloride	0.5%

Later when these rats are weaned (21 [illegible] are then returned to the Breeders' Diet (not the Colony Diet). Th[illegible] on the Vitamin Restricted Diet until they are twenty-five to twenty-nin[illegible] time they should weigh thirty-eight to forty-eight Gm. They are then fed t[illegible]n A Free Diet so as to deplete them for the vitamin A test.

VITAMIN A FREE DIET.

Casein (Vitamin A Free)	18%
Salt mixture (Osborne-Mendel or McCollum No. 185)	4%
Agar (finely ground)	2%
Yeast (dried) (1)	8%
Dextrinized corn starch	63%
Hydrogenated vegetable oil (Vitamin A Free)	5%
Vitamin D (2)	

(1) The vitamin "B" value of the yeast should be such that not more than 150 mg. of the yeast is required for a daily-rat-weight recovery dose when animals are on the Sherman Basal Vitamin B Free Ration.

(2) In order to insure sufficient antirachitic activity, one-fourth of the yeast should be irradiated before it is incorporated in the diet. To accomplish this, the yeast in a layer not exceeding one-sixteenth of an inch in depth is irradiated for fifteen minutes at a distance of 12 or 18 inches with a quartz mercury vapor lamp. The yeast should be stirred during exposure. If desired, this antirachitic factor may be supplied by other materials of known potency.

VITAMIN A TEST.

The animals should be fed the Vitamin A Free Diet until there is either a decline in weight or a stationary weight for at least seven days. Preferably xerophthalmia should be manifest at this time but declining weight or stationary weight for seven days and definite eye conditions do not necessarily occur simultaneously. In any case, the weight criteria should be used for the administration of cod liver oil to the test animal. As a check, the control test rats must show both symptoms not later than 10 days after the administration of the cod liver oil to the test animals has begun. In order to insure more comparable conditions the beginning of the administration of the cod liver oil should preferably not occur before the 30th day or after the 45th day of the vitamin A free preparatory period.

The experimental animals should be divided into groups of six rats each, one group to serve as a control and the others to be treated with varying amounts of the cod liver oil under test, each animal within the respective groups being given the same dosage.

Cod liver oil being so potent, should be diluted with a vitamin A and D free oil such as peanut oil or corn oil. The total daily volume of the diluted oil for each rat shall be 0.1 cc. This

diluted cod liver oil should be fed separate from the diet. The control animals should receive 0.1 cc. daily of the oil used as a diluent. The time for its administration should be judged by the same criteria as that for the cod liver oil.

The experimental test period should be of thirty-five days' duration. Any animal that dies in less than two weeks after the beginning of treatment should not be included in judging the results of the test. A record should be made three times a week of the body weight and the condition of the eyes during the test period. The condition of the eyes may be recorded as normal, watery, sensitive to light, œdema, bloody exudate, pustules and opacity of cornea.

II. Vitamin D (Antirachitic).—Cod liver oil may be assayed for its vitamin D content by the following method. When so assayed the oil shall contain at least 60 vitamin D units per Gm.

This assay is based upon the estimation of the minimum amount of cod liver oil necessary to initiate a specific degree of recalcification in the leg bones of rachitic rats reared and fed under definite control as specified.

The vitamin D potency of cod liver oil shall be expressed in units per Gm. of oil, the unit to be the minimum average daily amount (in mg.) of cod liver oil required to produce, in sixty per cent of the animals in any one group, a degree of recalcification represented by a narrow continuous "line" across the metaphysis of the leg bones of the rats which have been kept and fed under the conditions as specified in the assay.

The vitamin D content per Gm. of cod liver oil is computed by dividing 1000 mg. (1 Gm.) by the determined minimum average daily amount of oil, in mg., required to induce the requisite degree of recovery. The average daily dose is understood to be the total amount of cod liver oil given divided by the length of the test period, ten days.

Method.—Experimental animals for vitamin D test, obtained from mothers which have been reared and bred on the Breeders' Diet, are fed the Vitamin Restricted Diet until they are twenty-eight to thirty-two days old and weigh forty to sixty Gm. They are then fed the Steenbock Ricket-Producing Diet, No. 2965, or the McCollum Ricket-Producing Diet, No. 3143.

STEENBOCK RICKET-PRODUCING DIET, No. 2965.

Whole yellow corn (freshly ground)	76%
Wheat gluten	20%
Calcium carbonate	3%
Sodium chloride	1%

MCCOLLUM RICKET-PRODUCING DIET, No. 3143.

Corn (yellow)	33%
Wheat (soft winter wheat)	33%
Wheat gluten	15%
Gelatin	15%
$CaCo_3$	3%
NaCl	1%

During the period of preparation for the test and while on test the animals should receive distilled water.

After the experimental animals have been on the rachitic diet for a suitable period (18 to 21 days) examine four rats, by the "line test" as described later, to see what stage of rickets has been attained. If these animals are found to have developed definite rickets, the remainder are considered as satisfactory for the test and should be divided into groups of seven animals each. It is desirable to have at least four groups, one as control, and three for treatment with the cod liver oil in varying doses so that one can judge the potency of the oil above and below the unit value sought.

From the beginning of administration of the cod liver oil the rats should be kept in individual cages and a record should be made of the daily food consumption.

The cod liver oil should be diluted with a vitamin A and D free oil such as peanut oil or corn oil so that the total daily volume of oil consumed by each rat shall be 0.1 cc. The oil should be fed separate from the diet. A control group of representative animals should receive 0.1 cc. daily of the diluent.

The diluted cod liver oil (or the diluent) should be given for eight consecutive days. The rats are continued on the rachitic diet for two remaining days of the test period to allow for the latent effect of the cod liver oil.

Any animal which has lost weight continuously during the test period; has eaten less than two Gm. of food on two consecutive days; or has averaged to eat less than four Gm. of food per day, should be excluded from the final interpretation.

At the conclusion of the tenth day of the test, the animals should be killed and the femur and tibia bones (or ulna and radius) removed from the right leg and preserved in formaldehyde (10%) for examination. When ready for staining, the bones should be thoroughly rinsed in water, split, placed in acetone for three minutes, dried on a blotter, placed in silver nitrate (2%) three minutes, intensified under bright light until the "line" is clearly evident, placed in sodium thiosulfate solution (5%) for three minutes and examined under a microscope. Reserve the bones from one other leg in formaldehyde for possible confirmation test.

INVESTIGATIONS CONDUCTED DURING THE CURRENT YEAR.

Representatives of the six laboratories, assisting in the study of Vitamin Assay Methods, met at Detroit, March 1930, summarized and correlated the results which have accumulated during the current and preceding years.

The Committee feels that it would be unwise at this time to undertake to discuss in detail all the scientific studies that have been conducted in connection with the investigation of methods for vitamin A and vitamin D assay of cod liver oil. On the other hand, the Committee feels very strongly that the members of the Association should be informed concerning the general nature of the investigation and the extent to which attention has been given to the numerous details that have a definite bearing on the efficiency of the methods of assay which have been developed. Accordingly, it is proposed to discuss briefly the investigation that the Vitamin Committee has conducted.

PROGRAM FOR THE FURTHER STUDY (1929–1930) OF METHODS TO DETERMINE THE VITAMIN A AND VITAMIN D CONTENT OF COD LIVER OIL AND RELATED PRODUCTS.

I. Study of Methods for Vitamin A Assay.

Obviously in a study of this character, it was desirable that the experimental conditions in all laboratories should be as nearly identical as possible. Thus it was recommended that each laboratory should establish its own breeding colony from a common stock and that this colony should be maintained on a balanced diet rich in vitamin A and vitamin D. It was next proposed that in order to obtain gradual depletion of vitamins, the young females obtained from this colony should be used to rear the rats intended as test animals. It was provided that these females should be reared and maintained on a Breeders' Diet. The Breeders' Diet was standardized for all laboratories participating. The composition of the Breeders' Diet was as follows:

BREEDERS' DIET (1929-A).

Wheat meal (entire kernel)	33.0%
Yellow corn meal (entire kernel)	34.0%
Whole milk powder	21.0%
Old process linseed oil meal	7.0%
Alfalfa leaf flour (green color)	4.0%
Calcium carbonate ($CaCo_3$)	0.5%
Sodium chloride (NaCl)	0.5%

NOTE: The ingredients should be ground fine enough so as to insure a uniform mixture.

This diet must be supplemented daily by the addition of fresh green leafy material such as lettuce, clover or spinach. Lettuce is preferable. About five Gm. daily per rat of this material should be sufficient.

In order to start breeding colonies from common stock, each laboratory arranged to purchase male and virgin female rats approximately five weeks old from the same source. These animals were fed the Breeders' Diet until approximately 100 days old when they were mated. In order that the size of litters should be comparable for the different laboratories, it was agreed

that when the young were five to seven days old, all litters should be adjusted to seven animals for each female. In order that the young should not have an opportunity to partake of the Vitamin A and D Rich Breeders' Diet, it was arranged that when the young were ten to twelve days old, the diet of the mothers should be changed by replacing the Breeders' Diet with a diet designated as the Vitamin Low Diet. Its composition was as follows:

VITAMIN LOW DIET (1929-M).

Wheat meal (entire kernel)	33.0%
Yellow corn meal (entire kernel)	34.0%
Skimmed milk powder	21.0%
Old process linseed oil meal	11.0%
Calcium carbonate	0.5%
Sodium chloride	0.5%

When the young were ready for weaning, the mothers were removed from the young and returned to the Breeders' Diet. The young were continued on the Vitamin Low Diet until they were twenty-five to twenty-nine days old. At this time a record was made of their weight and they were transferred to a diet designated as Vitamin A Free Diet which consisted of the following ingredients:

VITAMIN A FREE DIET (1929-B).

Casein (extracted, Vitamin A Free)	18%
Salt mixture (Osborne-Mendel or McCollum No. 185)	4%
Agar (finely ground)	2%
Yeast (high vitamin assay[1])	8%
Starch (corn autoclaved)	63%
Crisco	5%

METHOD OF VITAMIN A ASSAY OF COD LIVER OIL.

From the twenty-fifth to the twenty-ninth day, the experimental animals were maintained on the Vitamin A Free Diet until symptoms of vitamin A malnutrition developed. A record was made concerning the date of occurrence of xerophthalmia, and the date when the animals arrived at stationary or declining weight. A careful record was made of the nature of the eyes at that time. In making the vitamin A test, the experimental animals were divided into eight groups of six animals each and subjected to the following procedure:

1st group (pathological controls) received the Vitamin A Free Diet with the addition of 0.1 cc. peanut oil daily.

2nd group received the Vitamin A Free Diet (1929-B) supplemented with 1.2 mg. cod liver oil daily.

3rd group received the Vitamin A Free diet (1929-B) supplemented with 1.6 mg. cod liver oil daily.

4th group received the Vitamin A Free Diet (1929-B) supplemented with 2.0 mg. cod liver oil daily.

5th group received the Vitamin A Free Diet (1929-B) supplemented with 2.5 mg. cod liver oil daily.

6th group received the Vitamin A Free Diet (1929-B) supplemented with 3.2 mg. cod liver oil daily.

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[1] The vitamin value of the yeast should be such that not more than 150 mg. of the yeast is required for a daily recovery dose. In order to insure vitamin D activity, one-fourth of the yeast may be irradiated before it is incorporated in the diet. To accomplish this, the yeast in a layer not exceeding one-sixteenth of an inch in depth is irradiated for fifteen minutes at a distance of 12″ or 18″ with ultraviolet light produced by a mercury vapor quartz lamp. There should be some slight movement of the yeast during exposure. Or if desired, this vitamin D may be supplied by vitamin D products of known potency.

7th group received the Vitamin A Free Diet (1929-B) supplemented with 4.0 mg. cod liver oil daily.

8th group received the Vitamin A Free Diet (1929-B) supplemented with 5.0 mg. cod liver oil daily.

The same composite sample of cod liver oil (from a common source) was used by all laboratories for the vitamin A studies. It was desired that each experimental animal should receive the same amount of oil. Accordingly, it was provided that the cod liver oil should be diluted with a vitamin A and D free oil such as peanut oil or corn oil so that the total daily volume of oil consumed by each rat was 0.1 cc. The diluted oil was fed separate from the diet. The experimental period, as in the U. S. P. X method, was of thirty-five days' duration. However, observations were made at the end of twenty-eight days to ascertain whether a twenty-eight day period would be equally as efficient as a thirty-five day period. A record was made three times a week of the body weight and eye conditions of the animals during the experimental period. It was suggested that the condition of the eye should be reported as normal, watery, sensitive to light, œdema, bloody exudate, pustules and opacity of cornea.

VITAMIN A UNIT.

It was agreed that the vitamin A potency of cod liver oil should be expressed in the same manner as in the U. S. P. X method, namely, in units per Gm. of oil. The vitamin A unit was assumed to be the minimum daily amount of cod liver oil required to cure induced symptoms of vitamin A starvation in young albino rats and to cause a gain in weight of from ten to twenty Gm. within a period of thirty-five days specified in this assay. The vitamin A content of cod liver oil was computed in terms of units per Gm. by dividing 1000 mg. (1 Gm.) by the determined minimum (in mg.) required daily growth recovery dose of oil as indicated by at least four rats out of six.

II. Study of Methods for Vitamin D Assay.

The experimental animals used by the different laboratories for making the vitamin D study were reared as described under the vitamin A assay method. They were continued on the Vitamin Low Diet until they were twenty-eight to thirty-two days of age and presumably at that time weighing fifty to sixty Gm. Then they were transferred to the Steenbock Ricket-Producing Diet, No. 2965 or to the McCollum Diet, No. 3143.

STEENBOCK RICKET-PRODUCING DIET, NO. 2965.

Whole yellow corn (freshly ground)	76%
Wheat gluten	20%
Calcium carbonate	3%
Sodium chloride	1%

MCCOLLUM RICKET-PRODUCING DIET, NO. 3143.

Corn (yellow)	33%
Wheat (soft winter wheat)	33%
Wheat gluten	15%
Gelatin	15%
Calcium carbonate ($CaCo_3$)	3%
Sodium chloride (NaCl)	1%

During the period of the test the animals received distilled water. When the experimental animals had been on the rachitic diet twenty-one days, they were examined to determine the stage of rickets attained. If the experimental animals had developed definite rickets, the remaining rats were considered as satisfactory for the test. These were divided into groups of seven animals each and were given cod liver oil in accordance with the following procedure.

1st group (four animals-controls) received Steenbock Diet No. 2965 supplemented with 0.1 cc. peanut oil daily for six consecutive days.

2nd group received the rachitic diet supplemented with 7.0 mg. cod liver oil daily for six consecutive days.

3rd group received the rachitic diet supplemented with 9.0 mg. cod liver oil daily for six consecutive days.

4th group received the rachitic diet supplemented with 11.0 mg. cod liver oil daily for six consecutive days.

5th group received the rachitic diet supplemented with 14.0 mg. cod liver oil daily for six consecutive days.

The experimental animals were kept in individual cages and a record was made of the daily food consumption of each animal.

All laboratories used the same cod liver oil for all vitamin D studies. The cod liver oil was diluted with a vitamin A and D free oil such as peanut oil or corn oil so that the total daily volume of oil consumed by each rat was 0.1 cc. The diluted oil was fed separate from the diet. The diluted oil was given for six consecutive days and the rates were then continued on the rachitic diet for four additional days. (Incidently, various laboratories modified this procedure so that information was accumulated concerning the administration of oil for different periods.) Any animal that lost weight continuously; that ate less than two Gm. of food during two consecutive days; or that averaged to eat less than four Gm. per day was excluded from the test.

At the conclusion of the tenth day of the experimental period, the animals were killed and the femur and tibia bones (ulna and radius) were removed from the right leg and preserved in formaldehyde (10%) for examination. When ready for staining, the bones were thoroughly rinsed in water, split, placed in acetone for three minutes, dried on a blotter, placed in silver nitrate (2%) three minutes, intensified under bright light, placed in sodium thiosulphate solution (5%) for three minutes and examined under a microscope. The bones from another leg were preserved in formaldehyde for possible confirmation test.

VITAMIN D UNIT.

It was agreed that the vitamin D potency of cod liver oil should be expressed in units per Gm. The unit was defined as the minimum average daily amount of cod liver oil required to produce a continuous narrow line across the metaphysis of the leg bones in four out of six rats of each group prepared under the conditions specified in this assay.

The average daily dose was determined by taking one-tenth (number of days in experimental period) of the total amount of cod liver oil given.

The vitamin D content of cod liver oil was computed in terms of units per Gm. by dividing 1000 mg. (1 Gm.) by the determined minimum (in mg.) average daily corrective dose of oil.

THE FOURTH ANNUAL SYMPOSIUM OF THE GENUS MENTHA.

F. J. BACON, CHAIRMAN.*

The Fourth Annual-Symposium on the Genus Mentha was held May 8th at the Emerson Hotel, Baltimore. The Symposium is gaining more and more recognition in the scientific group. This year the attendance numbered about thirty men interested in the subject of mints. Representatives from all the mint-growing sections of the United States were present.

This Symposium was originated in 1927 at St. Louis for the purpose of studying at a round-table discussion all problems connected with the scientific, technical and trade aspects dealing with mints.

At the fourth meeting of the group the following papers were presented and discussed:

1. "Cytological and Genetical Studies on the Genus Mentha," by Mabel Louise Ruttle, Geneva Experiment Station, Geneva, New York. Eleven species of the genus mentha were collected in Germany and England and examined cytologically. The chromosome number of the pollen-mother-cell, egg-mother-cell and the root tips was determined. The results of the work will probably offer a scientific explanation of the confusing number of forms and types found in the mints.

2. "Another Question about Mints," by B. V. Christensen, University of Florida. A supposedly true type of *Mentha biperita* L. grown in the Florida medicinal plant garden in 1929 yielded

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* Professor of Pharmacognosy, Western Reserve University, Cleveland, Ohio.

an oil which assayed only 7.23% menthol. It was shown that this exceptional oil contained about 80% pulegone. It is hoped that further study will explain the low menthol content of peppermints grown in the South. It was pointed out that the plant may have undergone a dehybridization or a delayed reduction in the process of metabolism.

3. "Some Notes on Fertilizer Experiments," by G. A. Russell, Greensboro, North Carolina. Fertilizer experiments were undertaken to demonstrate the effect of various fertilizer combinations on the oil and menthol production. Forty-four plots were established in 1928. The results of two years indicate that no particular fertilizer combination is effective over the other combinations used. All fertilizer combinations increased the herb yield over that of the check plot.

4. "The Mints and Mint Oils," by Prof. E. N. Gathercoal, University of Illinois. An illustrated lecture was given covering the planting, cultivation, harvesting and distillation of mint oils in the producing sections of the United States. The author reviewed the history, statistics and chemistry of the mint oils.

5. "Histological Studies on the Genus Mentha," by Helena Hoelscher and F. J. Bacon, Western Reserve University. A comparative study of the several species of mints was presented. Types of simple and glandular hairs were illustrated and classified with a view to determining the age of the leaf for maximum oil production. A direct relationship exists between the types and number of glandular hairs and oil production. It was pointed out that these leaf hairs may be easily brushed off and this may account for low oil yields at certain stages in the growth of the plant.

The Symposium devoted more than four hours to papers and discussions on related problems. The members of the group regret that representatives from the trade were not present. It is hoped that next year the program will be of sufficient interest to attract all people interested in mints.

INVESTIGATION OF CHARGES OF ALLEGED IMPROPER ADMINISTRATION OF THE FOOD AND DRUGS ACT.

The hearing begun June 3rd before the Senate Committee on Agriculture and Forestry, investigating charges of improper administration of the Food and Drugs Act is progressing slowly. The testimony is assuming a much wider range than at first proposed and indications are that the investigation which was at first thought to require two days will extend over that many weeks.

THE RANSDELL BILL BECOMES LAW.

The Ransdell Bill has become law by the signature of the President, after receiving the approval of Congress; under it the Hygienic Laboratory is made the nucleus of the new establishment, which will be devoted to the purpose of inquiring into the cause, prevention and cure of diseases. The Treasury Department is specifically authorized to accept gifts from private sources for the furtherance of these investigations, much as the Library of Congress was authorized some years ago to accept donations in its field. A system of fellowships in scientific research has been devised in order to secure the proper personnel. Senator Ransdell, speaking on the results to be derived, said: "Beyond question there should be one place in the United States where unceasing efforts are being made to conquer disease. While very remarkable and most beneficial efforst have been made in the war against disease by researches in science, our great medical schools and endowed institutions, there has never been in any one place a combination and concentration of all the branches of science such as is contemplated in the national institute of health."

It is proposed to bring together for this work "under one directing head the very ablest experts in the sciences of chemistry, pharmacy, dentistry, medicine, surgery, physics, biology, bacteriology and pharmacology."

NATIONAL WHOLESALE DRUGGISTS' ASSOCIATION TO MEET IN CHICAGO.

The week of October 13th has been selected as the time of the fifty-sixth regular meeting of the National Wholesale Druggists' Association. The meeting will be held in Chicago, with headquarters in the Edgewater Beach Hotel.

SEVENTY-EIGHTH ANNUAL MEETING OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, BALTIMORE, MD., MAY 5-10, 1930

ABSTRACT OF THE MINUTES OF THE GENERAL SESSIONS.

The sessions of the seventy-eighth annual meeting of the AMERICAN PHARMACEUTICAL ASSOCIATION were held in Emerson Hotel, Baltimore, Md. The list of members in attendance is printed in May JOURNAL on pages 530–534. Some of the Committee Reports referred to in the PROCEEDINGS have been printed in the Council minutes pages 534–547; some are included in these minutes, and others will be printed in later issues of the JOURNAL.

FIRST GENERAL SESSION.

The First General Session of the seventy-eighth annual meeting of the AMERICAN PHARMACEUTICAL ASSOCIATION was called to order by President H. A. B. Dunning, at 9:00 A.M., Wednesday, May 7th. President Dunning invited the Past-Presidents of the ASSOCIATION, who were present, to seats on the platform. In the order of their seniority they are: John Uri Lloyd, James H. Beal, H. H. Rusby, E. G. Eberle, William B. Day, A. R. L. Dohme, Charles H. LaWall, C. Herbert Packard, Samuel L. Hilton, Julius A. Koch, H. J. Arny, C. W. Holton, L. L. Walton, T. J. Bradley, C. W. Johnson, D. F. Jones (former President Frederick J. Wulling was unavoidably absent, but came East in time for the Pharmacopœial Convention). Honorary President, E. V. Zoeller; First Vice-President, A. L. I. Winne; President Thomas Roach of the National Association of Retail Druggists; President M. R. MacFarlane, of the Canadian Pharmaceutical Association, and the Secretary, R. B. J. Stanbury, also were invited to seats on the platform.

Secretary E. F. Kelly, at the request of one of President Dunning's friends, presented the latter with a glass gavel.

In accepting the gift, President Dunning expressed his appreciation of friendship. He referred also to another gavel, presented to the ASSOCIATION by Joseph Jacobs. It is made from the newel post in Dr. Crawford W. Long's home, Athens, Ga. The latter was a pharmacist as well as physician and the first to use ether as an anesthetic in a surgical operation.

Secretary Kelly read telegrams and letters of regret and good wishes from A. W. Pauley, St. Louis; Wilhelm Bodemann, of Chicago; F. W. Brown, South Dakota and Captain Isaac E. Emerson, of Baltimore.

President Dunning, in the regular order of the program called for the report of the Secretary; it follows:

REPORT OF THE SECRETARY.

July 31, 1929 to April 30, 1930.

This report covers the activities of the Secretary's office for the eight months which have elapsed since the last annual meeting. It has been a very busy, though short, association year and certain activities which have been inaugurated or advanced during this period will without doubt have a far-reaching influence on pharmacy in the future.

Many of the matters referred to herein, will be more fully reported on by the other officers. the committees, the sections, the Council or the House of Delegates, with all of which the Secretary coöperates and to which he is indebted for their interest in our work and their kindly assistance.

The several reorganizations which the ASSOCIATION has undergone in recent years, have greatly simplified its procedure, and the experience gained by these changes is hardly sufficient as yet to clearly point the way to others. That there is still some unnecessary duplication in its work and a failure of its several divisions to function in complete harmony, is indicated—and these in time will become so apparent as to be correctable. It is doubtful, however, that many realize the volume of work carried on by the officers, committees and divisions of the ASSOCIATION and the great diversity of its interests. The fact that all of these efforts are carried forward with so little friction and interference is a great tribute to the small army that does the work.

The 1929 Meeting.—The publicity following this meeting was more satisfactory and more widely distributed than that of any previous meeting. In this we again received splendid cooperation from the pharmaceutical publications of the country including those of the state and local associations, and a number of foreign journals.

The resolutions adopted at that meeting were widely distributed and have been put into effect as completely as possible. It is well to call attention to the comment in one state association journal, that a weakness in the procedure of the A. PH. A. was a lack of machinery to carry its resolutions into operation as completely as should be the case.

The 1930 Meeting.—The ASSOCIATION has been very fortunate in its Local Secretaries and local committees having charge of the arrangements for the annual meetings. Each group has seriously attempted to improve on the efforts of the group of the previous year and have succeeded at least in introducing new ideas and procedures. The group having charge this year is no exception to this rule and has given whole-hearted coöperation. Special attention should be drawn to the pre-convention registration of attendants from the City of Baltimore and the counties of Maryland. Before the meeting opened approximately 400 had been registered and had been furnished badges, coupon books and programs—all carried out by mail. This plan not only increases local interest but relieves the congestion of registering a large number of local attendants the first day or two of the meeting. The short period between the last meeting and this did not permit of so much pre-convention publicity but the local publicity committee sent out an information bulletin that was widely published and the Baltimore Association of Commerce assisted by sending out a letter to each of our members. The Drug Trade Bureau of Public Information has given the usual coöperation and the Local Secretary will bring to your attention the assistance of many others.

Copies of addresses and reports and abstracts of papers have been furnished to publications and press agencies before the meeting and may we again urge officers, committee chairmen and section officers to get such information into the office as much in advance of future meetings as is possible. Our proceedings would be given much more publicity if this were done.

Pharmacists in the Government Services.—The Secretary's office has been called on to give more time and attention to the efforts being made by the ASSOCIATION, with the coöperation of other pharmaceutical organizations, to improve the pharmaceutical service in the various Governmental divisions and to advance the standing of the pharmacists who render this service, professionally and financially. Real progress has been made since the last meeting and although a great amount of work has yet to be done, the results so far secured indicate that our objective is worthy and possible of attainment. There is some unreasonable opposition but the greatest difficulty is a lack of appreciation of the importance and necessity of pharmaceutical service which can be overcome only by persistent effort.

The state and local pharmaceutical associations, national associations, state boards of pharmacy and schools of pharmacy have given very encouraging and effective coöperation in this work and have responded promptly to our requests for assistance.

The following statements explain the scope of this effort. Pharmacists are now required in the Army, the Navy, the Public Health Service, the Veterans Bureau and in the Prohibition and Narcotic Bureaus. They enter the Army and the Navy by enlistment and enter the other divisions through the Civil Service and are rated by the Personnel Classification Board as civilian employees in the sub-professional classification. This means that they are enlisted men in the Army and Navy and civilian employees of a sub-professional standing in the other divisions. In some instances they do not discharge any pharmaceutical services worthy of mention and only the Public Health Service has required graduation in pharmacy as a preliminary training. The national government does not meet the requirements thrown around pharmaceutical service by every state in the Union.

The Navy.—The conditions in this branch while far from satisfactory, are considered as being better than in other Government services and for the present nothing is being attempted there.

The Army.—Pharmacists generally are acquainted with the bills before Congress to establish a Pharmacy Corps in the Medical Department of the U. S. Army. A very satisfactory hearing was held on the bill in the preceding Congress and another hearing will be requested later. A great amount of work has been done to acquaint members of Congress with the purposes and merits

of the legislation with encouraging results. The American Legion and the Veterans of Foreign Wars have endorsed the movement. The Medical Department and the Surgeon General are opposed to the measure. It was stated in the Army and Navy Register, *first*, that the legislation was unnecessary and, when progress was made, that even if it was passed by Congress it would meet a Presidential veto on the basis of information furnished by the Secretary of War. Through good friends of the cause, a contact has been made with the Secretary and while he naturally expressed the views of the Medical Department, an expression of willingness to discuss the proposal with certain representatives of pharmacy has been made. This will be done and our efforts will be continued and strengthened until this unsatisfactory situation in the Army is corrected.

The Public Health Service.—As you will be informed later, the Parker Bill has become law. The bill has been before Congress for several years, was passed in the last Congress and vetoed by President Coolidge because of objections to certain provisions not in accord with administrative procedure. These objections were corrected in the bill as passed by the present Congress and approved by President Hoover. The original bill did not provide commissions for pharmacists but this provision was included when representatives of pharmacy protested and showed that pharmacists were discharging duties in the Public Health Service which clearly entitled them to commissioned rank.

Secretary Mellon of the Treasury Department, in which the Public Health Service is located, in reporting to Congress on the measure wrote:

"The major purposes of this bill are to provide for the coördination of public health activities of the Government by authorizing the assignment of officers of the Public Health Service to other departments upon the request of such departments; to establish a national advisory health council by expanding the functions of the present advisory board of the Hygienic Laboratory; and to provide a unified method of appointment and orderly promotion in the Public Health Service of the medical, dental, sanitary engineer and pharmacist officers.

"The extension of the practice now authorized by law for the assignment of Public Health Service officers to other departments which are conducting health activities would effect in a practical way much needed coördination in the Federal health activities. The other provisions of the bill will enable the Public Health Service to carry out more efficiently the functions now imposed by law, unifying the methods of appointment of the major groups of its mobile professional service, and providing for the rate and conditions of promotion."

In the report made on the bill by the Committee on Inter-state and Foreign Commerce, the following comment was made:

"Sections 4 and 5 would put dentists, sanitary engineers and pharmacists on the same basis as to appointment, pay, promotion, disability privileges, etc., as medical officers. This is one of the major objects of the bill. Public-health work is, or should be, a career service. It has come to be quite as dependent upon these other professions for its success as upon the medical profession. For the good of the service and to encourage members of these other professions to engage in it, it is considered necessary that they should be put upon the same basis as the doctors, Surgeon General Cumming testified (page 14 of the hearing):

"The greatest single administrative need of the Public Health Service is uniformity of method of appointment and status of this scientific personnel."

Other witnesses before the committee expressed the same thought. Such appears to be the general opinion of those familiar with the service.

During the discussion of the bill in the House, a member of the Committee on Inter-state and Foreign Commerce said:

"One important phase of the bill is that the dentists and the sanitary engineers and the pharmacists are transferred to the commissioned grade. They are thus placed on a permanent status, on a career basis. The medical officers are already in that status."

Pharmacists entering the Public Health Service in the future will do so as commissioned officers and this should attract those best qualified to render the pharmaceutical service required in public health work.

Placing pharmacy on the right basis in any service is encouraging and will be helpful in the efforts in other services and it is most appropriate that it should be done first in the Public Health Service.

The Veterans' Bureau.—A movement has been under way for some time to put the medical service in this Bureau on a commissioned basis and no doubt something should be done to stabilize it. When the bill for this purpose was drawn up it provided for a Medical, Dental and Nurse Corps, and so far as we know, pharmacy was not consulted. A hearing was promptly requested and granted, at which pharmacy's claims were presented together with an amendment providing for a Pharmacy Corps. The bill is still in committee and will be closely followed.

Personnel Classification Board.—As previously explained, pharmacists are civilian employees in other services than the Army and Navy. A Personnel Classification Board was set up by Congress several years ago to classify such employees of the Government for purposes of pay, etc. In doing so, certain general classifications were set up, as Professional and Scientific, Sub-Professional, and so on. As is well known, pharmacy was placed in the Sub-Professional Classification and this classification has been a serious handicap. Our effort to have this corrected, to which reference will be made elsewhere, has met with encouraging success so far. In a preliminary report just issued, the Personnel Classification Board has placed pharmacy in the Professional and Scientific Service and we are greatly indebted to the Board for their sympathetic consideration of our request. The significance of such recognition of pharmacy in this preliminary report is greater than might be grasped unless a study of the situation has been made. It is confidently expected that no change will be made in the final report. The details of the classification are not entirely satisfactory as might be expected but these can await adjustment since the recognition of professional standing is given.

The classification referred to may be found in P. C. B., Form 18 obtainable from the Superintendent of Documents, Washington, D. C.

Hospital Pharmacy.—The importance of some reasonable regulation of the practice of pharmacy in hospitals, comparable to that outside of hospitals, is becoming more and more apparent. It is certainly due those who put themselves under the care of these necessary institutions and is no less than fairness to pharmacists who willingly comply with state regulation of pharmaceutical practice. It is apparent also that the question cannot be dealt with effectively except through those agencies which exercise some regulatory supervision over hospitals in general. The ASSOCIATION has interested itself in this matter and hopes that at a reasonably early date the importance of an adequate and properly conducted pharmaceutical service in hospitals may be recognized and insured by the inclusion of some requirements covering the hospital pharmacy among other requirements for a recognized and approved hospital.

The ASSOCIATION has continued its membership in the American Conference on Hospital Service and at the annual meeting of the Conference held in February last dispensing of drugs and medicines in the hospital was one of the important subjects considered. One prominent contributor wrote:

"A closer acquaintance and coöperation between the hospital pharmacist and the members of the attending staff will be of mutual profit. The pharmacist will learn the problems which the staff has to meet, and the physicians can learn much concerning the composition and origin of new as well as of old remedies. In many hospitals the staff has failed to avail itself of the store of pharmaceutic information which may be had from the pharmacist for the asking, and the pharmacist has not taken as large a place in hospital conferences as he should. His function should not cease with the supplying of drugs called for on prescription and the detecting of inadvertent errors of dosage, but properly should be extended in an informative and advisory capacity, under instructions given by the staff and medical superintendent, so that hospital prescribing may be limited to remedies whose composition is known and whose use is approved by the best medical practice."

The Association's Publications.—The Collective Index of PROCEEDINGS and YEAR BOOKS, 1903 to 1925, was completed recently and copies have been forwarded to those who had placed advance orders. This Index is similar in arrangement and in page size to the Collective Index, 1851 to 1902. It contains over 85,000 titles and over 90,000 references, and covers 885 pages. The price of the Index is $5.00.

YEAR BOOKS, No. 16 and No. 17, for the calendar year 1927 and 1928, are in process. The report of the Progress of Pharmacy will be printed separately and will be issued in one volume. The Board of Trustees of the U. S. P. Convention has continued its coöperation by providing that those abstracts on the U. S. P. formerly contained in the "Digest of Comments on the U. S.

P. and N. F." but not in the YEAR BOOK, are to be included as was done in the YEAR BOOK, Volume 15, for 1926.

It has been possible to complete the sets of PROCEEDINGS and YEAR BOOKS of several institutions since the last meeting and several additional orders are in hand.

The National Formulary, Fifth Edition. Four series—A, B, C and D—totaling 40,084 copies have been printed and delivered to the J. B. Lippincott Co., the distributors; 37,735 copies had been sold to March 1, 1930 and the sales are exceeding the original estimates. One-half of the net profits from the sales of the National Formulary are annually transferred to the Research Fund which amounted to $55,063.39 on April 30, 1930.

The Pharmaceutical Recipe Book, First Edition, was issued in March 1929. One series—A—of 5000 copies was printed and delivered to the J. B. Lippincott Co.; 2116 copies had been sold to March 1, 1930, and the publication seems to have filled a real need.

The report of the Editor will furnish complete information in reference to the JOURNAL and it is necessary here only to say that the JOURNAL continues to maintain its high standard of quality and service.

Representation of State and National Meetings.—The larger number of these meetings are held during the summer months and only a few have, therefore, occurred since the Rapid City meeting. Through the coöperation of officers and members, we have been represented at most of those that have been held in the interval—and our representatives have been extended every courtesy. Plans are being made for representation at future meetings of state and national associations and it is confidently expected that coöperation between these organizations and the A. PH. A. will grow closer.

The Headquarters Building.—As this project draws nearer to completion, the work in connection with it occupies more and more of the time of those in the ASSOCIATION'S office. This is to be expected, however, and the results to be looked forward to when the institution is erected and in operation, makes the effort required a privilege. The address of the President and his report as Chairman of the committees of the ASSOCIATION having the undertaking in charge will fully explain the progress being made. As the scope and purpose of the project become better known, it is apparent what a tremendous influence the institution will have in the future development of pharmacy.

Membership.—The total of membership on April 30, 1930 was approximately the same as at our last annual meeting. The receipts from dues in 1929 was greater than in any previous year and it is hoped that a steady gain may be continued now that free memberships on account of subscription to the Headquarters Building Fund have been taken advantage of by far the greater number of those entitled to it. The receipts are not as great for the first four months of this year as they were for the same period in 1929 and efforts will be made to overcome this loss during the year.

Bills for dues are sent out in December of each year and monthly statements follow each month after January. Since the last meeting 68 members have resigned. Three hundred and thirty-six have been suspended for non-payment of dues and 32 have died. In the same period, 260 have been elected to membership through the payment of dues and 7 on account of subscriptions to the Headquarters Building Fund.

The total membership is approximately 4800 of which 167 are Life Members and 14 Honorary Members. Seven members have become Life Members through the payment of dues for thirty-seven consecutive years, C. W. J. H. Hahn, C. F. Heebner, C. H. LaWall, H. A. Pearce, E. A. Ruddiman and H. J. Sherwood, and five through fixed payments in accordance with the By-Laws, Millicent R. LaWall, B. Olive Cole, Milton Campbell, J. Edison Good and E. F. Kelly.

The report of the Committee on Membership will give additional information.

Receipts of the Secretary's Office.—Attached are detailed financial statements of the receipts from January 1 to April 30, 1930 from Dues, the JOURNAL, the National Formulary, the Pharmaceutical Recipe Book, Bulletins, PROCEEDINGS, YEAR BOOKS, Badges and Bars, Buttons and Pins and Miscellaneous Items. Remittances to the Treasurer and the balance on hand are also set out.

These attached reports also give detailed information in reference to the printing, binding and sale of the National Formulary and the Pharmaceutical Recipe Book.

The Secretary's annual financial report for the calendar year 1929 was submitted with that of the Treasurer, and audited as provided for in the By-Laws.

This, my fifth report as Secretary, is respectfully submitted with an acknowledgment of the helpful coöperation I have received from the officers and members of the ASSOCIATION and from those in our office.

E. F. KELLY, *Secretary.*

SUMMARY OF RECEIPTS AND REMITTANCES, SECRETARY'S OFFICE, JANUARY 1 TO APRIL 30, 1930.

Receipts by Secretary.

Dues:		
Membership only, 1930	$ 56.00	
Membership and JOURNAL, 1927	5.00	
Membership and JOURNAL, 1928	15.00	
Membership and JOURNAL, 1929	174.00	
Membership and JOURNAL, 1930	6157.00	
Membership and JOURNAL, 1931	25.50	
Membership and JOURNAL, 1932	5.00	
	$6437.50	
JOURNAL	3538.42	
National Formulary	2477.20	
Recipe Book	606.04	
YEAR BOOKS	128.15	
Bulletins	9.35	
Miscellaneous	0.15	
Interest on Deposit	21.43	
Total Receipts		$13,218.24

Remittances to Treasurer.

Jan. 25, 1930, Check No. 84	$2048.21	
Feb. 12, 1930, Check No. 85	1308.06	
Feb. 28, 1930, Check No. 86	1333.74	
Mar. 15, 1930, Check No. 87	1749.16	
Mar. 31, 1930, Check No. 88	3609.23	$10,048.40
Balance on Deposit Baltimore Trust Co		$ 3,169.84

NATIONAL FORMULARY.

RECEIPTS AND DISBURSEMENTS ON ACCOUNT N. F. V, JANUARY 1 TO DECEMBER 31, 1929.

Receipts.

Sales for quarter ending March 1, 1929	$2791.20	
Sales for quarter ending June, 1, 1929	2263.20	
Use of text to June 1, 1929	5.00	
Sales for quarter ending September 1, 1929	3760.80	
Use of text to September 1, 1929	10.00	
Sales for quarter ending December 1, 1929	3883.20	
Use of text to December 1, 1929	5.00	$12,718.40

Disbursements.

Maryland Advertising Company, Coupon Labels	$ 4.38	
National Conference on Pharmaceutical Research, Membership	25.00	
Mack Printing Co., Publication	3527.22	$ 3,556.60

RECEIPTS AND DISBURSEMENTS ON ACCOUNT N. F. V, JANUARY 1 TO MARCH 1, 1930.

Receipts.

Sales quarter ending March 1, 1930	$2467.20	
Use of text to March 1, 1930	10.00	
		$ 2,477.20

Disbursements.

E. N. Gathercoal, Chairman, Expenses	$ 103.37	
E. N. Gathercoal, Chairman, Expenses	63.44	
E. N. Gathercoal, Chairman, Expenses	37.50	
Samuelson Duplicating Company, Bulletins	35.80	
Pilcher-Hamilton Daily Company, Binders	26.25	
		$ 266.36

SUMMARY OF RECEIPTS AND DISBURSEMENTS ON ACCOUNT OF N. F. V.

Receipts.

1926	$45,318.21	
1927	17,460.75	
1928	14,565.15	
1929	12,718.40	
1930 (to March 1st)	2,477.20	
Total Receipts		$92,539.71

Disbursements.

1919–1920	$ 1,033.89	
1921	1,169.98	
1922	404.21	
1923	227.72	
1924	95.59	
1925	236.30	
1926	20,857.09	
1927	8,389.38	
1928	3,560.41	
1929	3,556.60	
1930 (to March 1st)	266.36	
Total Disbursements		$39,797.53

SUMMARY OF SALES OF N. F. V—JANUARY 1 TO DECEMBER 31, 1929.

Quarter ending.	Binding.	Copies.	Price.	Amount.	Rec'd by Secretary.
Mar. 1, 1929	Buckram	1157	$2.40	$2776.80	
	Leather	3	4.80	14.40	$ 2,791.20
June 1, 1929	Buckram	935	2.40	2244.00	
	Leather	4	4.80	19.20	2,263.20
Sept. 1, 1929	Buckram	1569	2.40	3765.60	
	Leather	0			
				3765.60	
	Less one copy interleaved leather returned			4.80	3,760.80
Dec. 1, 1929	Buckram	1616	2.40	3878.40	
	Leather	1	4.80	4.80	3,883.20
Total Sales for 1929					$12,698.40

SUMMARY OF SALES OF N. F. V—JANUARY 1 TO MARCH 1, 1930.

Quarter ending.	Binding.	Copies.	Price.	Amount.	Rec'd by Secretary.
Mar. 1, 1930	Buckram	1024	$2.40	$2457.60	
	Leather	2	4.80	9.60	$ 2,467.20

SUMMARY OF COPIES OF N. F. V—PRINTED AND BOUND TO MARCH 1, 1930.

Series.	Buckram.	Leather.	Total.
A	19,561	500	20,061
B	10,023	...	10,023
C	5,000	...	5,000
D	5,000	...	5,000
	39,584	500	40,084

SUMMARY OF COPIES OF N. F. V—DISTRIBUTED COMPLIMENTARY, SOLD AND HELD IN STOCK BY J. B. LIPPINCOTT COMPANY TO MARCH 1, 1930

	Buckram.	Leather.	Total.
Copies used in copyrighting and for complimentary distribution through the Mack Printing Co	33	12	45
Copies distributed complimentary through the Chemical Catalog Co	32	...	32
Copies sold by the Chemical Catalog Co	18,021	107	18,128
Copies distributed complimentary through J. B. Lippincott Co	10	...	10
Copies sold by J. B. Lippincott Co	19,585	22	19,607
Copies held in stock by J. B. Lippincott Co	1,903	359	2,262
	39,584	500	40,084

PHARMACEUTICAL RECIPE BOOK—SUMMARY OF RECEIPTS AND DISBURSEMENTS, P. R. B. I.

Receipts.

1929	$5256.00	
1930 (to March 1st)	606.04	
Total		$ 5,862.04

Disbursements.

1917	$ 10.50	
1918	19.26	
1919	.....	
1920	1.40	
1921	23.98	
1922	42.93	
1923	.....	
1924	470.70	
1925	572.47	
1926	336.38	
1927	95.08	
1928	766.66	
1929	9838.65	
1930 (to March 1st)	.....	
Total		$12,178.01

SUMMARY OF SALES OF P. R. B. I—JANUARY 1 TO DECEMBER 31, 1929.

Quarter ending.	Binding.	Copies.	Price.	Amount.	Rec'd. by Secretary.
June 1, 1929	Buckram	1036	$2.78	$2880.08	$2880.08
Sept. 1, 1929	Buckram	613	2.78	1704.14	
	Less bills Lippincott Co.			16.74	1687.40
Dec. 1, 1929	Buckram	249	2.78	692.22	
	Less lettering and postage			3.70	688.52
	Total				$5256.00

SUMMARY OF SALES OF P. R. B. I—JANUARY 1 TO MARCH 1, 1930.

Quarter ending.	Binding.	Copies.	Price.	Amount.	Rec'd by Secretary.
March 1, 1930	Buckram	218	$2.78	$ 606.04	$ 606.04

SUMMARY OF COPIES OF P. R. B. I PRINTED AND BOUND TO MARCH 1, 1930.

	Buckram
Series A	5000

SUMMARY OF COPIES OF P. R. B. I DISTRIBUTED COMPLIMENTARY, SOLD AND HELD IN STOCK BY J. B. LIPPINCOTT CO. TO MARCH 1, 1930.

Copies distributed complimentary	88	
Copies sold	2116	
Copies held in stock	2796	
Total		5000

ACCOUNT OF YEAR BOOKS, PROCEEDINGS, BULLETINS

1. Sales:		2. Expenses:	
1929	$1558.25	1929	$3693.36
1930 (to March 31st)	89.75	1930 (to March 31st)	56.94
Total	$1648.00	Total	$3750.30

President Dunning requested Secretary Kelly to interrupt his report sufficiently long to give an opportunity to the Senior Past-President John Uri Lloyd to say a few words. He said in part:

"I am wondering if we all comprehend what it means to live a life through. I am thinking now of an Oriental story that came to me from the 'Third Reader.' It came to me again as I looked at you, an Oriental story in which a bridge covers a river and that bridge is filled with holes irregularly set in the floor of the bridge. The Oriental philosopher telling the story says 'a troop of men and women were going on to one end of the bridge and on that bridge was a troop of men with sticks in their hands, spears in their hands, and as they start on the bridge they shove one and then another through the holes into the river. Finally one man climbs exhausted up the bank at the other end of the bridge. All the others have fallen into the river of time.' Apply it to ourselves—the bridge we have crossed and are crossing. The man who escapes the holes is probably the most unfortunate of all. Probably the one who drops first is missing a lot of trouble.

"My young friends, there are incidents in the beginning of life that grow to be events at the end. There are what we think are events in the beginning of life that become incidents and are lost in the passing along. Ah, you cannot tell, you cannot tell.

"May I take one moment of your time now as it comes to me to tell you why I am charitable. 'Faith, Hope and Charity, and the greatest of these is charity.' Forget money. The Man of Charity thinks not of money. I was a drug clerk once, a drug clerk of the olden time. When it came night and after the closing of the store I had to go out of the back door and around through

the weather and up the back stairs and sleep in a little cubby hole over the front of the store. The door bell was in my room and when that bell rang I had to get up half-dressed and hurry down through those stairs, out into the weather, up to the front door and in.

"Now listen, young people. One night about one o'clock the door bell rang. It was a blustery, cold winter night. I dreaded to get up and go down but I had to for it was my duty, and when I opened the door who should come in but a little trembling old lady. She wore a threadbare shawl. Her dress was very thin, I could see that; and when I ushered her in, back to where I leaned over the counter, she took from beneath her shawl a coal oil can and sat it on the counter. With the other hand she held out a three-cent piece. Have you ever seen the old style three-cent piece? It evidently was a souvenir with her. She said, 'Will you kindly let me have three cents worth of coal oil?' Don't you know how rude I was? I looked at her and I said unthinkingly, 'Did you call me down from my little room upstairs to go around through this winter night to sell you three cents worth of coal oil?' Then she looked at me and she said in a faltering tone, plaintively spoken, 'My boy, my baby boy is dying and there is no light in the house.' Don't you know what came over me then? Don't you know I realized that I should have thought twice before speaking once? Don't you know that I should have listened to the advice given me by my mother when I was a child, 'Johnnie, if you feel inclined to say anything that is rude, think twice before you speak once.' The lesson lasted to the present time. Even now I can see that lady as she went out. But when I handed her that coal oil can it was filled and when I went out behind the counter to get the coal oil I put my hand over that three-cent piece and she took all the money I had out of the door with her.

"Much would I give for that three-cent piece. It was an incident then. It would be an event now could I get it. Otherwise, I am afraid that as I passed through life—I am talking about myself now—I would have said rude things. I would have acted differently. I would have been hostile where others were hostile instead of thinking twice and wishing them good, hoping that they would succeed in all that was right and not saying one thing back.

"Mr. Secretary, if you will look up the proceedings of the A. PH. A. and all other places where I have written anything, I doubt if you can find one sentence hostile to anybody and I stand before you now, young people, as a man who may have enemies—I don't know them; who may have antagonists—I don't know them, but who harbors in his heart not one bit of enmity or rivalry to any man who lives.

"I thank you for listening to me. But for the three-cent piece I probably would not have been here to tell you this story."

Members paid tribute by rising.

President Dunning said it has been a great inspiration to have Dr. Lloyd come here and speak to us. His message to young men impressed me greatly. "Listen, young people," he says, and it behooves us to listen, and to give service and coöperation in all those great things of life that make for the better welfare of mankind, to represent our ASSOCIATION in its service aspects. Dr. Lloyd for over a half century has been a great leader in pharmacy and a great teacher and still is. He and the membership are glad that he is one of those who crossed the bridge and climbed the bank beyond. President Dunning concluded by saying: "Although Dr. Lloyd is a great man, a great teacher, a great leader, a great poet, a great writer, please remember that once he was a retail drug clerk."

Referring to the Secretary's report, President Dunning desired to make the members aware of the tremendous amount of work that the Secretary is doing in coöperation with the other officers of the ASSOCIATION. He had commented upon this work in his address, but felt that he should emphasize his work in one respect particularly, and that is the *service* aspect of it and of this ASSOCIATION and all phases of pharmacy, to all classes of pharmaceutical interest, to all associations, national and otherwise, and he wanted to emphasize the idea also that this ASSOCIATION in its work is justified in having the support and coöperation of every other national pharmaceutical association and of every individual pharmacist in the United States. He was aware that the ASSOCIATION has the good will of every individual pharmacist and those associated with pharmacy in the country; but more than that is wanted—an understanding of the service and an active support of it.

Upon motion of Mr. Heuisler, seconded by Mr. Nitardy, acceptance of the report of the Secretary was voted.

President Dunning called for the report of the Treasurer; it follows:

REPORT OF THE TREASURER OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, C. W. HOLTON, TREASURER, JANUARY 1 TO APRIL 30, 1930.

PROPERTY AND FUNDS OF THE ASSOCIATION.

	July 31, 1929.	April 30, 1930.
Current:		
Savings and Checking Accounts	$ 1,044.20	$ 1,660.23
Secretary's Account, Baltimore Trust Co	2,756.75	3,169.84
Total	$ 3,800.95	$ 4,830.07
Permanent:		
Endowment	$ 12,760.54	$ 13,201.18
Centennial	4,927.11	5,068.48
Ebert Legacy	7,226.61	7,396.26
Ebert Prize	1,103.04	1,097.94
Life Membership	37,078.38	38,314.07
Research	49,261.01	55,063.39
Headquarters Building, Bonds and Cash	333,965.61	386,187.29
Headquarters Building, Property	92,853.33	92,853.33
Total	$539,175.63	$599,181.94
Trust:		
Procter Monument	$ 14,567.54	$ 14,938.77
Remington Honor Medal	1,332.19	1,339.68
Total	$ 15,899.73	$ 16,278.45
Summary:		
Assets	$542,976.58	$604,012.01
Held in Trust	15,899.73	16,278.45
Total	$558,876.31	$620,290.46
Increase July 31, 1929 to April 30, 1930		$ 61,414.15

SECURITIES, PROPERTY AND CASH HELD FOR THE ASSOCIATION AND FOR THE TRUST FUNDS, APRIL 30, 1930.

Securities:		
Liberty Bonds, 4th issue, 4¼%	$ 44,500.00	
State of Massachusetts Bonds, 3%	14,000.00	
State of Tennessee Bonds, 4½%	2,000.00	
State of Illinois Bonds, 4%	4,000.00	
State of North Carolina Bonds, 4½%	7,000.00	
City of Baltimore, Md., Bonds, 4%	40,000.00	
City of Chattanooga, Tenn., Bonds, 4½%	3,000.00	
City of Dallas, Tex., Bonds, 4½%	10,000.00	
City of Newark, N. J., Bonds, 4½%	5,000.00	
Chicago, Milwaukee, St. Paul and Pacific R. R. Co	200.00	$129,700.00
Property:		
Lots 3, 4 and 5, Square 62, Washington, D. C		$ 92,853.33
Cash:		
Boston Penny Savings Bank, Boston, Mass., Savings Account, 4½% compounded semi-annually	$ 410.96	

Merchants & Newark Trust Co., Newark, N. J., Checking Account, 3% compounded monthly	1,315.77	
Baltimore Trust Co., Baltimore, Md., Checking Account, 2½% compounded monthly	14,302.85	
Drovers & Mechanics National Bank, Baltimore, Md., Savings Account, 4% compounded semi-annually	381,707.55	$397,737.13
		$620,290.46

The property entry represents the actual cost of the site in Washington, D. C., for the Headquarters Building including recording, insurance of title and other incidental charges. Record should be made of the fact that the original deposit on the site, amounting to $5000.00, was paid by Dr. H. A. B. Dunning personally and credited to his subscription, and therefore this amount does not appear in the bank deposits of the Headquarters Building Fund although it is included in the total of collections for the fund.

Since the last report was submitted, City of St. Louis 4% Bonds to the value of $2000 and owned by the Ebert Legacy Fund, have matured and been paid. The cash equivalent appears in the checking account of this Fund in the Baltimore Trust Co.

The net total of subscriptions to the Headquarters Building Fund on April 30, 1930 was $817,653.30 and the total of collections, including the $5000.00 deposit toward the purchase of the site made by Dr. H. A. B. Dunning which was credited to his subscription, was $479,040.62. The increase in subscriptions since the last report, a period of nine months, was $7082.42 and in collections was $51,641.26. The Chairman of the Campaign Committee will give further details in his annual report.

The campaign has cost in total $58,468.16 of which amount $13,023.94 was spent in 1924, $11,944.05 in 1925, $10,007.06 in 1926, $9297.31 in 1927, $10,627.34 in 1928, $3333.61 in 1929, and $234.85 to April 30, 1930. From this is to be deducted the interest received from the fund of $1164.91 in 1924, $4932.31 in 1925, $7587.42 in 1926, $9470.44 in 1927, $8675.14 in 1928, $11,639.96 in 1929, and $46.68 to April 30, 1930, a total of $43,516.86. leaving an actual cost of $14,951.30. From this should be deducted the special contribution of $1000.00 by the Armand Company, making the net cost $13,951.30. It therefore cost 1.71% to obtain subscriptions of $817,653.30 and 2.91% to collect $479,040.62. The net cost of the campaign has been paid from the current funds of the Association and all collections have been used for the purchase of the site, to pay taxes and insurance, or are on deposit.

The Secretary's report will show receipts from Dues, the Journal, the National Formulary Recipe Book, Year Book, Proceedings, Bulletins, Badges and Bars, Buttons and Pins and Miscellaneous Items, which are collected by him and deposited in the Secretary's account in the Baltimore Trust Company. These receipts are transferred by check, accompanied by itemized deposit slips to the Association's checking account in the Merchants and Newark Trust Company from which all budget expenses are paid by voucher check.

The annual report of the Treasurer for the calendar year 1929 was audited and approved by W. Albert Johnson & Co.—the auditors approved by the Council. A summary of this report, together with the report of the auditors, appears in the Journal for February 1930, pages 185–189, and both reports will be published in full in the next Year Book.

Respectfully submitted,
C. W. Holton, *Treasurer.*

President Dunning thanked the Treasurer for the interesting, clear and comprehensive report. He said, it would seem that the A. Ph. A. has lots of money; as a matter of fact it is about a half million or so short of its requirements and he asked the members to take that idea home with them, to think it over. One item in the report impressed him very unfavorably—the amount received in new subscriptions to the American Institute of Pharmacy. Instead of $7000.00 the members alone should have made it $70,000.00. He emphasized that and believed that when the members come to understand what is being done for pharmacy and for them individually, they will rectify this unfortunate condition. He said the campaign for funds for the American Institute of Pharmacy is not over by any means, in some respects it is just beginning.

Upon motion by Mr. Lascoff, seconded by Mr. Diner, it was voted to receive the Treasurer's report.

Chairman R. L. Swain, of the House of Delegates, reported that the House of Delegates held its First Session, Tuesday afternoon, at which time all business allotted to that session, was conducted;[1] that the largest number of accredited delegates were present at that session that had ever been present since the organization of the House of Delegates. He also stated that at that session there were present President MacFarlane and Secretary Stanbury of the Canadian Pharmaceutical Association, as well as representatives from the Public Health Service and the United States Navy.

Upon motion duly seconded, the report of the House of Delegates was accepted.

Before delivering his presidential address, President Dunning called on Delegate H. H. Robinson, representing the N. W. D. A., and President Thomas Roach of the N. A. R. D., for brief remarks.

Mr. Robinson was very happy to bring the greetings from the National Wholesale Druggists' Association, and wished for a profitable and pleasant meeting. He said the N. W. D. A. members were interested in the deliberations and problems of the A. PH. A.—most of them are mutual. His associates are glad to join in bringing about conditions for the betterment of the drug trade as a whole and for the communities served.

President Roach expressed pleasure in being delegated to bring the greetings of the National Association of Retail Druggists, also of its Executive Committee which met in Chicago week before last and directed him to express good will and wishes for a successful meeting.

President Dunning was appreciative of President Roach's attendance and said to him that the coöperation the N. A. R. D. has been giving during the past year through him was most active, helpful and effective in matters which are of mutual importance to the two associations which are endeavoring to their fullest extent to serve pharmacy.

ADDRESS OF THE PRESIDENT.

Vice-President Winne presided while President Dunning delivered his presidential address. (The address is printed in the May JOURNAL, pages 487–498.)

Following the reading of the President's address, Vice-President Winne announced that as a regular order of business the address of President Dunning would be referred to the Committee on Resolutions for consideration and report.

President Dunning, after resuming the chair, called on the President of the Canadian Pharmaceutical Association, Dr. M. R. MacFarlane.

ADDRESS OF PRESIDENT M. R. MACFARLANE.

Mr. President and Gentlemen of the A. Ph. A.:

"I would like to tell you, were I able to do so, how much I appreciate the invitation you have given me to come here and be with you to-day. My appreciation is absolutely beyond my ability to express it in words. I was told I would not feel I was among strangers and I am proud and glad to say I feel perfectly at home—I do not know a group of men I could feel more kindly toward than my American friends. In Pharmacy and in Canada we term you as our American cousins. Our two countries here side by side are a wonderful example to the rest of the world, the best the world has produced, separated only by an imaginary line for almost half of their international boundary, but united in spirit by a bond of fellowship that is a greater security for peace than warships and fortifications.

"I am here to-day representing the Canadian Pharmaceutical Association, which comprises every pharmacist in the Dominion of Canada.

"Canada is divided into nine Provinces, each Province having its own College of Pharmacy or Pharmaceutical Association, which sponsors the education and legislates, by their Pharmacy acts, the rights and privileges of their various members, and to each pharmaceutical body is entrusted the administration of their laws.

"The Canadian Pharmaceutical Association is a federation of all the Provincial bodies, its council being composed of two representatives from each of the provincial organizations and its

[1] The report is included in the minutes of the House of Delegates.

executive is chosen from that council. To this association the interests of the Canadian druggists are entrusted in all things federal.

"The work of our Association is very general, but our principal efforts are directed toward federal legislation in which we have been quite successful. By our association with the heads of the various governmental departments, we have established a confidence with our government that enables us to receive the greatest consideration in any new legislation they propose to enact. By our efforts we have been successful in having:

"*1.* The stamp tax removed from patent medicines.

2. Procured insertion in Section 9 in the opium and narcotic drug act whereby druggists are permitted to sell over the counter preparations containing small granules of narcotics.

3. We have secured officers rank and pay for druggists employed in military hospital dispensaries.

4. We have obtained special concession from the Department of Customs and Excise permitting druggists to purchase alcohol in bond at about $9.00 per gallon for manufacturing.

5. We arranged for the placing on the market of rubbing alcohol, the sale of which is confined to registered druggists in each province. At first, each store was only allowed 2 dozen, 16-oz. bottles or its equivalent per month, but last November, by a special conference with the Commissioner of Excise and our Executive, each store is now permitted to purchase its full requirement provided they make application to the Excise Department, submitting satisfactory proof of the legitimate sale of a greater quantity than two dozen.

At the same time we also had it made possible for a druggist to procure his required amount of Tincture of Iodine, he previously having been limited to one gallon per month.

6. We procured the removal of Codeine and Apomorphine from the schedule of narcotic drugs.

7. We secured amendment to the recent Food and Drug Act whereby druggists are permitted to distribute samples of medicines from their stores to adults.

8. We arranged a tour across Canada for Sir William Glyn Jones who organized the P. A. T. A., the fate of which awaits the decision of the Privy Council as to whether the Combines Investigation Act is *ultra veres* or *ultra veres* the statues of Canada.

9. We have been actively engaged in the formation of the Committee on Pharmaceutical Standards, the work of the revision of the B. P. and the preparation of a new Canadian Formulary.

10. Pharmacy comprising every registered druggist in the Dominion.

11. We have established a C. Ph. A. insurance department whereby the insured pays the regular board rate and now each year has returned a dividend of 35%.

12. During the past year we received the consideration from the Minister of Health which places the graduate pharmacist in charge of a dispensary on the same status as a retail druggist regarding signed orders for narcotics.

13. We also had the Narcotic and Drug Act amended allowing doctors to telephone prescriptions containing small quantities of narcotics such as Camphorated Tincture of Opium, etc. in cough mixtures.

14. Also that prescriptions containing narcotics could be sent by mail.

15. In 1924 we purchased the *Canadian Pharmaceutical Journal* from the Gibbard estate and established it as our official organ. Through the efforts of our Secretary and Editor of the JOURNAL, Dr. Stanbury, now well known to this audience, it has been developed into the most valuable and highly appreciated trade paper, entering every drug store in Canada to-day. It is published semi-monthly and carries with it not only current market quotations, but every theme of interest to the pharmacists from coast to coast."

"Our association also has a Board of Commercial interest which has been active in trying to establish better methods of merchandising, urging the pharmacist to coöperate with those manufacturers who stand by sound economic business principles which functions for the mutual advantage of manufacturer and distributor.

"We have also established a Pharmacy Week concurrent with the week observed throughout the United States. This has been made possible by the assistance and coöperation of the National Wholesale Druggists' Association of New York. This *week* has been a splendid medium of presenting to the public the fact that pharmacy is still one of the arts and sciences requiring the same skill and accuracy with which the chemist of former days was credited.

"In Canada we have the same menacing conditions which confront the retail drug trade in the United States, predatory price cutting by chain and departmental stores, but nevertheless, I predict a wonderful future for the druggists of Canada. I do not care to appear egotistic, but I would like to convey to this audience some impression of the possibilities of that great Dominion lying to the North of you. Truly we have not developed as rapidly or in such proportions as you have, but to-day we are on the threshold of an era of prosperity.

"We have in Canada the two greatest railway systems in the world—the Canadian National and the Canadian Pacific. The Canadian National, owned by the Dominion Government operates 22,700 miles of track. It serves every important community in the Dominion reaching every provincial capitol. It also owns and operates many of the leading hotels, such as the Chateau Laurier, Ottawa; The Fort Garry, Winnipeg; the Canadian National, Vancouver; and the Nova Scotia, Halifax. During the tourist season they conduct some wonderful places of interest, such as Jasper Park Lodge in the Canadian Rockies; Manaki Lodge, and Algonquin Inn, Ontario; Picton Lodge, Nova Scotia and many others which are the playgrounds for American tourists and those who wish to enjoy nature combined with all the comforts of their city homes.

"The Canadian National Railway also operates the Canadian National Steamships comprised of forty-four vessels sailing from Atlantic and Pacific Coasts to all parts of the world. Lord Northcliffe once said, 'The Canadian Pacific Railway is one of the greatest engineering feats in the world.' It, too, operates 21,000 miles of railway and 68 steamships on the Atlantic-Pacific and Great Lakes. Like the Canadian National Railway the C. P. R. also operates fourteen hotels and nine single camps—the new Royal York, Toronto, and the Chateau Frontenac, Quebec, being the finest.

"It also has the largest single irrigation project on the American Continent, developed at a cost of $20,000,000. Both these great railways honeycomb the world famous wheat belt which produced over 500 million bushels of wheat in 1928.

"Possibly our greatest development has been in water power resources. No other single factor has contributed so much toward giving to Canadian industry a distinctive character. As your worthy Mayor stated last night the City of Baltimore had made its advance in the past decade, so has the generation of electric power from water power increased 200% in the past ten years, and it is still in its infancy, for our present development of 5½ million horsepower is only 13% of the ultimate capacity of 43 million horsepower for a 24-hour service, at the average six-months flow of water. At present there is under development 2 million horsepower which will be completed in 1933.

"Our mines are attracting investors throughout the world. Canada produces 70 different mineral products of economic value. Our food production is the third largest in the world; the fourth largest producer of copper in the world. We supply 90% of the world's nickel, 85% of the world's asbestos, 55% of the world's cobalt. Newsprint production has doubled since 1924—we have 33 pulp mills, 47 pulp and paper mills, 33 paper mills. We manufacture 250 millions of dollars worth of can material from our natural resources.

"I repeat, the Pharmacy of Canada has a future—for the future of Canada is assured by its mineral wealth, its rich natural resources, its food crops, its ever-expanding world trade, its wealth of manufacturing raw material, its effective labor laws and satisfactory labor conditions, its vast present and potential wealth of waterpowers, its vast series of waterways penetrating the continent.

"I trust you will pardon this effusive contribution about Canada but after listening to your Mayor, Mr. Broening, and the Governor of Maryland, Hon. Albert C. Ritchie, last evening I felt that I was justified in bringing you a message, that would imbue every man here with a desire to come to Toronto in 1932 to the joint meeting of the AMERICAN PHARMACEUTICAL ASSOCIATION and the Canadian Pharmaceutical Association. Toronto with its vast hotel accommodation is fast becoming the Convention City of the Continent. In June we will have a million Americans at the Shriners' convention, and look forward to a pharmaceutical convention of the same proportion in 1932, when we may have an opportunity to reciprocate for some of the many kind things that have been done for the representatives of the Canadian Pharmaceutical Association here.

"I thank you for inviting me here and giving me this privilege of bringing you greetings from Canada."

President Dunning conveyed appreciation of President MacFarlane's and Secretary Stan-

bury's membership and attendance and hoped they would continue to come and bring others and suggest others to come. He hoped they would have a profitable visit, and expressed a deep interest in President MacFarlane's talk, which contained much information that may be helpful in solving pharmaceutical problems in this country. He thanked him for the very cordial and gracious invitation to come to Canada in 1932 and assured him that many would attend.

Upon motion duly seconded the First General Session was then adjourned.

SECOND GENERAL SESSION.

The Second General Session of the A. PH. A. was convened by President Dunning at 2:00 P.M., on May 8th.

President George W. Colburn, of the Maryland Pharmaceutical Association, extended greetings and welcomed the members of the A. PH. A. to Maryland.

President Dunning as Chairman of the Headquarters Building Campaign Committee, Building Site Committee and the Building Plans Committee, verbally presented the reports for these committees; he spoke in part as follows:

Headquarters Building Campaign Committee.

"The first report is the report of the Headquarters Building Campaign Committee. The work of the Campaign Committee this year has been largely confined to the solicitation of special gifts. We have received very few gifts from the general sources. I do not mean that should be so. It should not be so. I know that on account of the length of time that this campaign has been continued, many of you have been lulled to sleep and you are willingly or unwillingly dodging your responsibilities. Some have subscribed to the campaign fund and some have intended to. I don't mean you here in this room, but the 50,000 pharmacists in the United States. You have not gotten around to it. Besides, you are reacting to the old principle—let somebody else do it. You expect it will be done anyway and you won't bother to even look into it. This message goes not only to the limited number present, but I hope it will go to all the hundred thousand persons who should be interested in pharmacy either directly or indirectly because after all, this is the greatest thing that is being developed in Pharmacy to-day for the good of Pharmacy and all of the interests associated with it. I presume every man connected with any endeavor feels the same way, but there are always exceptions. This happens to be the one.

"In regard to the special gifts, we have been most fortunate. Four individuals and five institutions contributed an additional amount of something over $100,000, in cash, for the purpose of purchasing additional land on the site which we obtained in Washington opposite the Lincoln Memorial. We feel that this interest is going to grow among those wealthy institutions and wealthy individuals who are beginning to understand the purpose and value of this institution. These few remarks represent the report of your Campaign Committee.

Building Site Committee.

"Now, as to the report of your Building Site Committee: We have within the year, with some difficulty and extensive negotiations and a great deal of trouble, obtained most of the additional land that it was planned for us to purchase. We are having some little problems to solve in connection with obtaining all we desire and we are able to pay for at this time, but I discussed the matter in my presidential address, and we feel assured in due course these difficulties and obstacles will be dealt with and eliminated. I am not going to say anything about the site because some of those who will follow me have planned to tell you all about it. I have told you a great deal about it before, and if you will study these plans that are on the board[1] here, you can learn all there is to know about them. That is all I could tell you. This little graph down here (indicating) shows the location of the site, immediately opposite the Lincoln Memorial and within view of the new Memorial Bridge going over the Potomac River. It is right in the center of the wonderful development being promulgated in Washington. The plans for the building appear on this board, also.

Headquarters Building Plans Committee.

"The Headquarters Building Plans Committee: These building plans have been in reasonably good shape for us to go ahead with the construction of the building. It may be some modi-

[1] Exhibited near the speaker's table.

fication of those plans will develop. I might say that will depend entirely on how much money those interested furnish your committee. We have enough money now to get started, to pay for this property, to construct a building of limited size and scope. That, we have felt, would be a start, a foundation for the future, but that is all we have. So if you want something larger, more imposing and more representative, we can have it if we receive the support which we should receive.

"In connection with the plans; these plans have been designed and redesigned by John Russell Pope, with the coöperation and support of Mr. Charles Moore, who is Chairman of the Fine Arts Commission—but you will be told more about that. The costs have been estimated and re-estimated and they are down to a practical and economical basis of cost. As is always the case, we have trimmed and trimmed without losing any real value, until there is $100,000 difference between what was figured on in the beginning in comparison with the estimate we received only the other day.

"Before closing my several reports, I want to impress upon you that all of this work, all expenditures and all the moneys that we have collected and have used have been accounted for under the best type of auditing system. Here in my hand is a report of an auditing company which is all that it should be, I think. It tells us a great many things. Among other things it shows, as I have previously reported that $817,653.30 was promised up to April 9, 1930. This has been increased; $480,184.57 has been received in cash and is herein accounted for in the shape of property we have purchased or is in the bank drawing interest. There are many other facts of interest in this audit report which is available to anyone interested but which I do not feel I should take the time to discuss now.

"I will make just a few remarks under the head of analysis by states of subscriptions actually received up to April 1, 1930. I have checked a very few very interesting facts on this paper, as for instance—every state in the Union has subscribed something, and in addition, Porto Rico, Cuba, Canada, Central America, etc. By the way, for the information of our Canadian friends who are here present, I think, Canada has subscribed $400 to this enterprise and that happens to be more than several of our states have subscribed; Philippine Islands, $75.00; Hawaii, $200; Cuba, $155, and so on. The least that any state has subscribed is $80.00 and the most is $226,437.48 from the State of New York. The second best in gross is $100,852.20 from the State of Maryland. There are other states that have subscribed considerable sums. There are many interesting facts but I cannot give them all here. The Manufacturers (of drugs) have contributed $301,044.00; Wholesale Druggists, $16,500.00 and the Retail Druggists of the country, $235,031.03. I should have told you there were 15,972 subscriptions. I have not here now, how many are retail druggists. The analysis of the subscriptions from retail druggists in regard to the amounts subscribed, the number of stores, average amount from each store and the number of subscriptions in the respective states is quite interesting. For instance, in the District of Columbia (I shall mention only two or three) the average per store is $28.22, Maryland $30.29 and New York $6.37. The lowest average is 51 cents per store within a state."

INTRODUCING DR. H. S. WELLCOME.

"Fellow members, that will represent my report. If I have left anything out of interest to you, you may ask me later. I really want to come now to the really interesting part of our program, the valuable part."

In the preliminary remarks introducing Dr. Henry S. Wellcome of London, England, President Dunning said that the members of the Association were fortunate in having present a gentleman who knows all about memorial buildings, museums and laboratories, and great research institutions everywhere in all parts of the world. He stated that Dr. Wellcome had agreed to say something relative to the manner in which the institutions were planned by him and how they were financed. Dr. Henry S. Wellcome, who has been a member of the A. PH. A. for more than fifty years, spoke of related enterprises he is associated with and has promoted and gave his views on the Headquarters Building. These remarks will have to be printed separately in another issue of the JOURNAL awaiting Dr. Wellcome's report.

President Dunning thanked Mr. Wellcome in the name of the ASSOCIATION and then introduced Dr. A. R. L. Dohme, who spoke in part as follows:

"It seems to me that many great projects in life are the result of a dream. By that I don't mean an idle dream but a dream constructive in its nature, and which tends to develop something that is useful, and I am going to begin in that connection with the dream that my uncle, the founder of my business, had way back in the 60's and 70's. He was a pupil in the Maryland College of Pharmacy of Louis Steiner, a great dreamer in chemistry. I recall my uncle coming home, not when he was a student, but years later and saying, 'I still adhere to the dream Dr. Steiner had and made me have, that the future of pharmacy is in chemico-therapy.' In those days it was more or less a cry in the desert. But subsequent evidence developed the fact that it was a true dream, a very wonderful dream because I am firmly convinced now that the future of pharmacy or the future of successful treatment of disease is going to be in chemico-therapy or the specific action of specific substances upon the human body.

"I had a dream not exactly of the same nature 25 years ago or more, in connection with a central organization, a central building in which Pharmacy could be housed, and where, not necessarily, discoveries were to be made, but where the various elements that go to make up this large body in this country could meet together harmoniously, coöperatively, successfully in bringing to the forefront the great importance, the great dignity, the great value of the profession of Pharmacy. Those of you who have lived a great many decades in the industry will appreciate the fact that in that time there has been anything but unanimity and coöperation in the various associations and various branches of the industry. They have gone along at loggerheads more or less, split up and divided and have not coöperated, but I do not think the end is in that direction. As a matter of fact, the unusual developments are rather a continuation of that unfortunate process. It always seemed to me if we could get together in a central location where these various sub-divisions of the industry could meet under a common roof with a common aim and purpose and develop an idea of coöperation, and become convinced that coöperation would mean a move for the success, not only of the industry as a whole, but the whole standing of the industry in the eyes of the world, that would be a great accomplishment.

"When this movement in Washington finally crystallized into shape and as one of its last developments a real temple of pharmacy, an almost ideal building was developed, it seemed to me that dream was coming true and I firmly believe the result of that dream will come true once this project is well under way, organized and operating. I firmly believe when that comes, the feeling that we are of one fraternity, all working for a common end which is the aid to the medical treatment and alleviation of disease. The more we coöperate and the more that we show an absence of petty rivalry or petty spiteful feelings and the more that we rise to the high dignity of being above that, the sooner will the community and the people of the country appreciate the pharmacist at his true value.

"We know perfectly well in medical lines what has been done for the profession by the successful operation of the medical organization. No reason in the world why in Pharmacy we could not accomplish the same thing.

"Personally, I think we have a tremendous insight when we have as prospective headquarters a building of this kind situated in the heart of beautiful Washington, not only beautiful as of to-day but more beautiful of to-morrow.

"I heard with a great deal of interest what Mr. Wellcome has said about buildings of this kind, and the plans and suggestions he has made regarding it, because he is a man who can speak from great experience of many years and he knows whereof he speaks when he says no person living can estimate the possible importance of that building to Pharmacy. It is not only to be a beautiful building and beautifully located, but the fact that we will all be looking to that, whether we manufacture, or are wholesalers or retailers, or in any way connected with the industry, it will elevate us in our profession.

"I appreciate, perhaps, that this building is too small as planned. I feel in regard to that we have enough ground and enough available space to grow without, at the same time or in any way, interfering with the dignified, classical effect of this beautiful building, and if we want to make our laboratories separate institutions, we can do so without interfering with this. If we grow we can do so without interfering with present plans and it seems to me while we do not want to make a mistake and have to undo it, this project has been simmering in the pot so long that unless it begins to crystallize into something tangible and definite soon, many will lose interest in it and many will believe it is only an idle dream of an idle fellow. Therefore, it seems to me if we are

more or less convinced that we have the right site, and I do not think there can possibly be any difference of opinion on that—we have the finest in Washington and all the officials with us, helping us and encouraging us and telling us this is the site; and *secondly*, if we believe we have, the purposes provided for that will meet the requirements for this coöperative effort in the various branches of the profession; and, if sufficient of our people in the pharmaceutical profession have become interested by contribution, it seems to me it is our duty to go ahead and begin operations. I believe that with some few exceptions, the plans as drawn subject to slight modification as to sub-divisions or actual division of space, we are ready to go ahead and that we should not wait any longer than necessary. I feel there has nothing happened in Pharmacy since I entered it about 40 years ago, and much has happened, that can compare with this particular movement to help the standing and success and the fraternal relations among the various branches of the industry as this Institute of Pharmacy in Washington."

President Dunning thanked Dr. Dohme, and expressed his appreciation for the splendid contribution he had made to this discussion. He then called on Secretary Kelly to give some of his experiences in this work. He spoke in part as follows:

"It has been my privilege to be connected with the negotiations with respect to this site and the plans for the building. In connection with these negotiations certain impressions have been gained that might be worth while to mention here. Particularly, I should like to refer to the general impression that Pharmacy is not favored by our Government. I will briefly mention to you that we have had, since this question of a site was under consideration, the most sympathetic support.

"I, personally, went to an officer of the Parks and Planning Commission before this site was suggested and placed our case before him and gave a history of this ASSOCIATION. I stated that first of all we were loyal Americans, and whether they appreciated it then, they would soon, that we did not want to put into that territory anything which would not be helpful, or anything that would detract from its future development. We were told, after consideration, to go ahead, and before we asked for a consultation with the Fine Arts Commission, which we looked for with a little fear and trepidation, we were notified to appear before the Fine Arts Commission. Mr. Pope had only been selected as architect a few weeks when this invitation came and it was necessary to take plans to that Commission which were considered only tentative. As a matter of fact, the Chairman saw those plans for the first time on the way from Baltimore to Washington to present them to the Fine Arts Commission, and yet with that short time, without any consideration or delaying the matter one minute, they approved it as a movement and a development in that section which was satisfactory. We have had the most loyal support from those two agencies and I should not feel I had discharged my duties if I did not mention this fine coöperation, particularly that given by Mr. Charles Moore who is chairman of the Fine Arts Commission.

"I believe this can be made a service institution as well as a temple of pharmacy. I believe it will become the center of activities so that state officials and others interested in pharmacy, when they come to this place, will receive information, inspiration and help."

President Dunning stated that Secretary Kelly had given some practical ideas relating to the American Institute of Pharmacy; that he has been closely associated with the work and with the development from the very beginning. He then called on Chairman of the Council, S. L. Hilton, who said in substance that his memory carried him back to 1884 when he skated over an old canal near to the site on which the AMERICAN PHARMACEUTICAL ASSOCIATION headquarters is to be erected. He realized at that time that the average pharmacist of the period did not impress the public with the value of pharmacy and the position of the pharmacist in public health. This realization prompted him early to become a member of the A. PH. A. so that in this organization he might do something for the advancement of pharmacy and for the ASSOCIATION. When he was elected President at New Orleans he had his dream and that was, there should be a temple of pharmacy. Hence immediately after installation into office he carried his dream into effect by assigning the first committee to have charge of this work and endeavor to do what was necessary to crystallize the dream into a reality. He considered himself fortunate that later Dr. Dunning presented the outline of the project to the Executive Committee of the Council, which resulted in the acceptance of his proposition to raise the necessary funds for the purpose. He also was directed as Chairman of the Council to appoint a Committee on Plans and a Committee on Buildings, and Dr. Dunning was appointed Chairman of the several committees. Individually he had con-

tributed something to the undertaking and hoped that it would be possible for him to do more. He looked forward with great pleasure to the completion of this project which he considered the greatest effort of American Pharmacy.

President Dunning thanked Chairman Hilton for his remarks and stated that he had hoped to have Dr. James H. Beal close the discussion because of the pioneer work and development done by him and his associates. He spoke in highest terms of Dr. Beal's work not only in this movement but in many other activities of the ASSOCIATION.

President Dunning closed his remarks by expressing the hope that every member would use his or her influence wherever and whenever possible to stimulate renewed and greater interest in the project, because it has been demonstrated that it is practical and should be made a great success. He read an abstract from a letter of a member deeply interested in the American Institute of Pharmacy, as follows:

> "Unfortunately I will be unable to attend the meeting of the A. PH. A. as it is necessary for me to leave on a trip to the West on Monday evening, May 5th. Will you please send me the official legal title and address of the American Institute of Pharmacy? I am planning to revise my will and wish to make a bequest to this institution."

President Dunning stated that before the next number of the program, that of the address of Prof. C. B. Jordan, three proposed amendments to the By-Laws should be read so that they can be acted upon at the following session. He called on Secretary Kelly to explain the purpose of the amendments. The latter stated that for some time there has been a movement to create Student Branches in colleges of pharmacy in order that students may enjoy membership on some basis satisfactory to both groups. (He further outlined the proposed amendments which were adopted at the next session and are printed there to avoid duplication.)

After the presentation of the amendments, President Dunning called on Dean C. B. Jordan to deliver an address on "Professional Pharmacy." (This address will be printed in this or a succeeding issue of the JOURNAL in larger type, hence omitted here.) After the conclusion of Dean Jordan's address President Dunning said that this address fitted in with the discussion of the afternoon and indicated that there is a development of professional pharmacy and he hoped that Dean Jordan would continue the work so ably presented.

Dr. Robert H. Riley, director of the Department of Health in Maryland, was given the privilege of the floor. He extended greetings to the ASSOCIATION and emphasized the mutual benefit to be obtained by the coöperation of pharmacists and pharmaceutical organizations with departments of health. Dr. Riley strongly recommended, from the experience of his own Board, that each State Board of Health provide for a pharmacist as a member.

On motion duly seconded, the Second General Session was then adjourned.

THIRD AND FINAL GENERAL SESSION.

The Final General Session of the A. PH. A. was called to order by President Dunning, Friday evening, May 9th, at nine o'clock.

President Dunning said that before proceeding with the regular order of business he desired to be given the privilege of expressing his appreciation again for the splendid services of the Local Secretary and his associates. He desired to thank them for the beautiful flowers presented to him at the banquet and to make public acknowledgment and assure the Committee of his appreciation.

Prof. Alácan and Dr. André of the School of Pharmacy of the University of Havana were granted the privilege of the floor. They expressed their pleasure at being invited to participate in the work of the convention from which they had derived much benefit.

The minutes of the Second General Session were read and approved.

Chairman Swain of the House of Delegates reported the final session of that body and stated that Dean C. B. Jordan had been installed as Chairman and Thomas Roach as Vice-Chairman of the House of Delegates. The report was received.

Secretary Kelly stated that as a part of the report of the House of Delegates he desired to bring to the attention of the General Session the fact that thirty-five resolutions had been presented in the House of Delegates and adopted. He said that it is customary at the Final General Session to read the resolutions by title and ask approval of them. If the General Session desired

to hear them read in full he would be glad to read them. The resolutions were read by title and upon motion of Jacob Diner, seconded by E. L. Newcomb and a vote the resolutions were approved. (The resolutions are printed in the May JOURNAL, pages 522–526.)

Secretary Kelly presented the proposed amendments to the By-Laws which were read at the Second General Session.

James H. Beal offered an amendment to the amendment by substituting the word "unappropriated" for the word "unexpended." Dr. Beal stated that in his opinion it is desirable that Student Branches shall be represented by delegates at the annual meeting of the ASSOCIATION and the amendment might be helpful in aiding such representation. (The amendments to the By-Laws as amended follow. The word "unappropriated" is italicized so as to call attention to the amended By-Law.)

Upon motion by J. H. Beal, seconded by S. L. Hilton, the amendments were adopted:

(Add to Chapter IX of the By-Laws a new article as follows:)

Article VIII. *Associate Members.* The Council may provide for the election of associate members and may fix the annual fee to be paid by such members. Associate members shall not be entitled to vote at the annual meetings or to participate in the election of the general officers of the ASSOCIATION.

(To Chapter VII of the By-Laws, add two new By-Laws as follows:)

Article VI. *Student Branches.* Student Branches may be established at such places and upon such terms and conditions as the Council shall prescribe. The members of Student Branches shall be associate members of the ASSOCIATION.

Article VII. *Fees to Be Collected from Members of Student Branches.* The Council may authorize a rebate to student branches of a portion of the fees paid by the members of such branches, but all such rebates shall be devoted exclusively to the promotion of the activities of such branches, and any portion of such rebate remaining *unappropriated* at the end of the college year shall be returned to the treasury of the ASSOCIATION.

THE EBERT PRIZE.

President Dunning stated that the next order of business was the presentation of the Ebert prize and he called on Chairman Langenhan of the Scientific Section to make the presentation.

He said in part as follows: "The purpose and the history of the Ebert Prize is known to all of us. The work of Mr. Thompson we are also familiar with. Hence, there is nothing for me to say except that I deem it a pleasure and an honor to have the privilege of presenting to Mr. Thompson this medal. It is to commemorate the honor conferred upon you because of your contribution to the progress of scientific pharmacy. Mr. President and members, may I present Mr. Marvin R. Thompson, the newest member, and I think the youngest member of that honored group, the Ebert Prize recipients?"

In responding, the recipient said: "As many of you know, my activities in the field of science have been limited to a comparatively short period of time and for this reason I feel doubly happy in attaining such heights in what might be considered the very beginning of my career. I wish to acknowledge indebtedness to fellow members of the Food, Drug and Insecticide branch of the U. S. Department of Agriculture for valuable assistance and coöperation, without which the extent of my work would have been quite impossible. I wish to thank the chairman and members of the Ebert Prize Committee and to say that although it is my understanding that this award is given as a token of past endeavors, in my future pursuits I shall make every effort to live up to the confidence that has been reposed in me. Needless to say, my wife is fully as happy as I am. I deeply appreciate this honor and thank you very, very much."

President Dunning said he did not know whether he was supposed to make any remarks in connection with the Ebert prize, but it was certainly most encouraging for the future of pharmacy that it is represented in the type of young men who are coming into the ASSOCIATION and evidenced their ability. In speaking with a number of members, all of them said they were tremendously impressed with the initiative, activity, knowledge and ability and the kind of work that the younger men in the ASSOCIATION are doing. It is a fine thing to have a young man like

Mr. Thompson, and we have others that preceded him, to show such evidence of being able to carry on.

President Dunning said that the next order of business would be the installation of officers and stated that it is an acknowledged prerogative of Dr. L. L. Walton to take charge of this function. The officers-elect were then presented for installation. The members of the Council thus honored are H. V. Arny of New York, Wm. B. Day of Chicago and T. J. Bradley of Boston.

President Dunning next greeted the Second Vice-President, D. B. R. Johnson, who expressed his appreciation of the honor and gave his assurance of performing the duties of office to his best ability.

First Vice-President Walter D. Adams was next presented. He stated that he recognized the honor conferred as a recognition of the pharmacists of Texas and pledged his whole-hearted coöperation in making the administration of the President-Elect a success.

President Christensen was next introduced and greeted by President Dunning, who said that it gave him great pleasure to greet him and turn the responsibilities of office over to him. It had given him pleasure to serve his fellow pharmacists to the best of his ability and through the coöperation of his associates to have the conviction that the ASSOCIATION has had a successful year and a successful convention. He hoped for President Christensen the same kind of interest and coöperation that he had had.

President Christensen thanked President Dunning and congratulated him on the progress and accomplishments of pharmacy during his administration. He said that some of the things that had been carried forward during President Dunning's administration would live as long as pharmacy lives. He expressed his sincere appreciation for the election to the office he now assumed. He said that it was an honor he had never anticipated and hoped that during his term of office he would be able to continue the progress which had been so ably put into action.

Secretary Kelly was next installed. He thanked President Christensen for his good will and pledged his best efforts in behalf of the ASSOCIATION.

Dr. Jacob Diner spoke in appreciation of the splendid convention and remarked that everything had been done to make the visitors comfortable and share in a most successful meeting. S. L. Hilton seconded the motion and asked that a rising vote of thanks be given.

Mr. Walton in addressing President Christensen said that the President's co-workers in the N. A. B. P. were very appreciative of his election to the presidency of this the greatest of all pharmaceutical associations. Many of these co-workers thought that their interest in the success of President Christensen's administration could be most appropriately expressed and helpfully promoted through the members of the Boards of Pharmacy becoming members of the A. PH. A. at this time to the extent of 100%. He said that it had been possible for him as Chairman of the Sub-Committee of the General Committee on Membership of the A. PH. A.—whose duty it is to solicit membership in this ASSOCIATION from members of Boards of Pharmacy—to increase the list of Boards of Pharmacy to 100% affiliation in this ASSOCIATION from eleven to twenty-five. He said further that this tribute to him and practical manifestation of aroused interest in this beloved organization on the part of members of Boards of Pharmacy, will undoubtedly be a source of encouragement to him and gladden his heart. He therefore took pleasure in presenting to him paid applications for membership to be transmitted to the Council for election, which makes the personnel of the Boards 100% affiliated with the A. PH. A., namely, Alabama, Colorado, Connecticut, Delaware, District of Columbia, Florida, Indiana, Iowa, Kansas, Kentucky, Maine, Maryland, Massachusetts, Minnesota, New Hampshire, New Jersey, New York, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, South Dakota, Texas, Wisconsin.

He also presented several applications from Board members whose respective Boards do not as yet have 100% affiliation. Mr. Walton desired to express his heartfelt thanks to the members of the Boards of Pharmacy and this ASSOCIATION who have coöperated so kindly and helpfully and have made this effort possible.

President Christensen responded as follows:

"I want to assure you of my hearty appreciation. Nothing could have pleased me better. I want to say also, I hope before many months to make it one hundred per cent all around. In every board of pharmacy in the country some hold membership in the ASSOCIATION. In fact, a large majority of board members do, but boards change quite frequently. Every little while a new member comes on, and sometimes it is overlooked for a while, but there is a splendid coöpera-

tion with board members and has been for several years. While speaking on this subject I want to mention that I hope also to create a larger interest, during my administration, among the retail pharmacists of the country. I believe that is the field that has, to some extent, been overlooked. There isn't any doubt about the usefulness of the ASSOCIATION to the retailer. We hear occasional remarks by someone who is not familiar with conditions, rather slighting remarks as to 'highbrows' and that sort of thing. Such remarks come from sources where they do not understand. This is no criticism of the past, but I do believe we will be able to find a way to sell this organization to the retailer and I shall make that one of my strong efforts—to try to sell the A. PH. A. to the retailer. In fifteen months from now—about that time, for the date is not fixed—I hope not only to see everyone who has been present at this meeting, at Miami, but I hope that such enthusiasm will be stirred up that we will even pass the record made here in Baltimore. I am not saying that with any feeling toward Baltimore. They have been eminently successful and we certainly very deeply appreciate their splendid efforts and success."

A rising vote of thanks was extended the local committee and those coöperating in the success of the convention.

There being no further business for consideration, the Seventy-Eighth Annual Meeting of the AMERICAN PHARMACEUTICAL ASSOCIATION was adjourned.

E. F. KELLY, *Secretary*.

A Pharmacy Exhibit in the United States National Museum, Washington, D. C.—A paper on this collection by Dr. Charles Whitebread, Assistant Curator, was presented before the Section on Historical Interests at the Baltimore meeting of the AMERICAN PHARMACEUTICAL ASSOCIATION. It will be printed in a succeeding issue of the JOURNAL.

HOUSE OF DELEGATES, AMERICAN PHARMACEUTICAL ASSOCIATION

ABSTRACTS OF THE MINUTES OF THE SESSIONS HELD IN HOTEL EMERSON, BALTIMORE, MD., MAY 5 TO 9, 1930.

The First Session of the House of Delegates, A. PH. A., was convened by the Chairman, R. L. Swain, Tuesday, May 6th, at 1:30 P.M.

The first order of business announced by Chairman Swain was roll call and the verification of credentials. The roll of delegates showed that a quorum was present and the House was declared as organized and opened for business. No meeting of the House of Delegates having been held in the interim of the annual sessions, there were no minutes to be read.

The names of delegates and organizations represented, follow. The name of the organization or state is in Italics; names of delegates in capitals and small capitals; and the names of the voting delegates in bold face. Only those present are named.

(*The minutes of the House of Delegates are printed here and to avoid duplication in printing will also answer for the reports of the transactions made to the general sessions—the reports are abstracts of the minutes.*)

A. PH. A. SECTIONS.

Scientific—**James C. Munch,** Baltimore, Md.
Education and Legislation—**W. F. Rudd,** Richmond, Va.
Practical Pharmacy and Dispensing—**John C. Krantz, Jr.,** Baltimore, Md.
Commercial Interests—**R. B. Rothrock,** Evansville, Ind.
Historical Pharmacy—**Lyman F. Kebler,** Washington, D. C.

A. PH. A. BRANCHES.

Baltimore—**Aquilla Jackson,** HARRY S. HARRISON, ROBERT S. MCKINNEY, E. A. POWELL.
Chicago—**E. N. Gathercoal,** G. L. WEBSTER, J. HARRY LINDAHL.
Cincinnati—**Frank H. Freericks,** CHARLES MERRELL, FRED S. KOTTE.
Detroit—**L. W. Rowe,** R. T. LAKEY, W. L. SCOVILLE, L. A. SELTZER.
New York—**Hugo H. Schaefer,** HERBERT KASSNER, ROBERT R. GERSTNER.
Northern Ohio—**H. E. Benfield,** EDWARD D. DAVY.
Northwestern—**E. B. Fischer,** HUGO PETERSON, JOHN W. DARGAVEL, GIL THOMPSON, C. H. ROGERS.
Philadelphia—**Ambrose Hunsberger,** C. H. LAWALL, E. F. COOK, ADLEY B. NICHOLS, M. S. DUNN, ARNO VIEHOEVER.
Pittsburgh—**C. Leonard O'Connell,** J. A. KOCH, LOUIS SAALBACH.
University of North Carolina—**E. V. Howell,** T. A. LIBBUS, HENRY MCDILLINGER, G. A. RUSSELL.
University of Washington—**H. A. Langenhan.**

NATIONAL ASSOCIATIONS.

American Association of Colleges of Pharmacy—**Charles B. Jordan,** HUGH C. MULDOON, W. H. ZEIGLER.
American Drug Manufacturers Association—**Paul S. Pittenger,** F. O. TAYLOR.
American Pharmaceutical Manufacturers' Association—**Philip Schmitt,** ELMER H. HESSLER, H. SHERIDAN BAKETEL.
Federal Wholesale Druggists' Association—**R. E. Lee Williamson,** HARRY Z. KRUPP, W. H. BRADBURY.
National Association Boards of Pharmacy—**L. L. Walton, F. W. MEISSNER, HARRY E. BISHOFF.**
National Association of Retail Druggists—**Thomas Roach,** BERNARD KEENE, JOHN A. GOODE.
National Wholesale Druggists' Association—**H. H. Robinson,** JOHN C. MUTH, ALFRED R. L. DOHME, WM. R. MEALY.
The Proprietary Association—**Ervin F. Kemp,** DELTA E. COMBS, PHILIP I. HEUISLER, E. C. MERRILL.

STATE ASSOCIATIONS.

Alabama—**Carl Whorton,** L. S. BLAKE, J. T. DUMAS, W. E. BINGHAM.
California—**W. Bruce Philip,** HENRY C. BIDDLE, FRED W. NISH.
Colorado—**Charles J. Clayton,** JOSEPH P. MURRAY, JESSE E. STAUFFER.
Connecticut—**C. Thurston Gilbert,** H. M. LEROU, J. W. MARSLAND, CHARLES GUSTAFSON, JR.
Delaware—**George W. Rhodes,** JOHN O. BOSLEY, JAMES W. WISE.
Florida—**J. H. Beal,** W. M. HANKINS.
Georgia—**Robert C. Wilson,** T. C. MARSHALL, JESSE MITCHELL.
Illinois—**William Gray,** H. J. HOLTHOEFER, S. L. ANTONOW.
Indiana—**Carl E. Nelson,** F. W. MEISSNER.
Iowa—**George Judisch,** J. W. SLOCUM.
Kansas—**W. Mac Childs,** PERCY WALKER, FRANK MILNE, ROY RILEY, ROY C. REESE.
Kentucky—**G. L. Curry,** LINWOOD A. BROWN, J. W. GAYLE, GEORGE WILHELMI.
Louisiana—**Adam Wirth,** J. MARION LEGENDRE, C. R. CALDWELL.
Maine—**James H. Allen,** CHARLES S. PIERCE, FRANCIS A. FRAWLEY.
Maryland—**R. L. Swain.**
Massachusetts—**Patrick J. Cuddyer.**
Michigan—**Bernard A. Bialk.**
Minnesota—**Hugo O. Peterson,** G. A. THOMPSON, JOHN W. DARGAVEL.
Mississippi—**Charles E. Wilson,** J. L. SHELL, F. L. HAMMOND.
Missouri—**Charles E. Caspari,** A. F. SCHLICHTING.
Nebraska—**Niels Mikkelsen.**
New Hampshire—**J. L. Dow.**
New Jersey—**Robert P. Fischelis,** CHARLES W. HOLTON.
New York—**Jacob Diner,** WILLIS G. GREGORY, WM. C. ANDERSON.
North Carolina—**Warren W. Horne,** J. G. BEARD, C. B. MILLER, J. C. BRANTLEY, G. A. RUSSELL, J. A. GOODE.
North Dakota—**Burt Finney,** W. H. SCHRAM.
Ohio—**M. N. Ford,** F. H. KING.
Oklahoma—**C. V. Nichols,** C. M. ANDERSON, D. B. R. JOHNSON, LOYD HARRIS.
Oregon—**Adolph Ziefle.**
Pennsylvania—**John R. Minehart,** LUCIUS L. WALTON, HUGH C. MULDOON.
South Carolina—**R. M. Dacus,** W. H. ZEIGLER.
South Dakota—**D. F. Jones,** FRED L. VILAS, ROWLAND JONES.
Texas—**Henry F. Hein,** WALTER D. ADAMS, W. F GIDLEY, F. M. JOSEPH, R. R. TOWNSEND.
Utah—**A. L. Phelps.**
Virginia—**A. L. I. Winne,** W. F. RUDD, W. G. CROCKETT, W. L. LYLE.
Washington—**C. W. Johnson.**
West Virginia—**J. Lester Hayman,** ROY B. COOK, GORDON A. BERGY, FRANK B. HAYMAKER, MARION H. JUDY.
Wisconsin—**W. O. Richtman,** J. J. POSSEHL, W. M. RHEINECK.

THE COUNCIL.

S. L. Hilton, Charles H. LaWall, E. F. Kelly, H. V. Arny, T. J. Bradley, W. B. Philip, H. C. Christensen, H. A. B. Dunning, J. H. Beal, C. E. Caspari, E. G. Eberle, A. G. DuMez, W. B. Goodyear.

FRATERNAL DELEGATES.

U. S. Public Health Service—E. B. Scott, F. M. Holt, R. D. Kinsey.

Chairman Swain announced that in accordance with the usual custom representatives of the Government had been invited to be present at this meeting of the House of Delegates. Chief Pharmacist Swann extended greetings and expressed his appreciation of the invitation to attend the sessions of the A. Ph. A.

Secretary Kelly read the following letter from the Public Health Service:

Mr. E. F. Kelly, Secretary,
American Pharmaceutical Association,
Baltimore, Md.

Sir:

Receipt is acknowledged of your communication of April 1, 1930, inclosing an invitation to this Service to be represented at your meeting in Baltimore, on May 5th–10th.

You are informed that in addition to Senior Pharmacologist M. I. Smith, the following pharmacists will also be present on the dates set opposite their names:

Chief Pharmacist E. B. Scott—May 6th and 8th
Chief Pharmacist E. M. Holt—May 7th and 8th
Chief Pharmacist R. D. Kinsey—on such dates between May 5th and 10th, as he can best arrange to leave his official duties.

(Signed)
C. C. Pearce,
Acting Surgeon General.

The privilege of the floor was granted to Dr. H. S. Baketel, President of the American Pharmaceutical Manufacturers' Association; Dr. R. B. J. Stanbury, Secretary of the Canadian Pharmaceutical Association; M. R. MacFarlane, President of the Canadian Pharmaceutical Association; E. B. Scott, R. D. Kinsey and Claude C. Cannon of the Public Health Service. They extended greetings and good wishes.

Vice-Chairman, C. B. Jordan, presided during the reading of Chairman Swain's address (the address is printed in the May Journal, pages 499–502). The address was referred to the Committee on Resolutions.

Chairman Swain resumed the chair and announced the appointment of the following committees:

Committee on Nominations: *Chairman*, James H. Beal, Florida; C. T. Gilbert, Connecticut; C. E. Nelson, Indiana; C. E. Caspari, Missouri; Jacob Diner, New York; Henry Hein, Texas; C. W. Johnson, Washington; L. L. Walton, Pennsylvania; R. B. Cook, West Virginia.

Committee on Resolutions: *Chairman*, R. P. Fischelis, New Jersey; A. L. I. Winne, Virginia; Harry Noonan, New York; C. E. Wilson, Mississippi; Niels Mikkelsen, Nebraska; Rowland Jones, S. Dakota; Thomas Roach, Oklahoma; Adolph Ziefle, Oregon; C. L. O'Connell, Pennsylvania.

ANNUAL REPORT OF THE COUNCIL TO THE HOUSE OF DELEGATES.

The reorganization meeting of the Council for 1929–1930 was held in Rapid City, S. Dak., on August 30, 1929 following the final general session of the Association. The following officers have served for the year: *Chairman*, S. L. Hilton; *Vice-Chairman*, C. H. LaWall; *Secretary*, E. F. Kelly.

E. G. Eberle was elected Editor of the Journal, A. G. DuMez, Editor of the Year Book and S. C. Henry, a member of the Commission on Proprietary Medicines for a term of five years. J. C. Peacock and George D. Beal were elected members of the Committee on Pharmaceutical Research for a term of five years each.

The Chairman of the Council was authorized to appoint an Executive Committee of the Council in case the occasion should arise.

The committee and other appointments of Chairman Hilton of the Council and of President

Dunning of the ASSOCIATION were approved and these with subsequent appointments have appeared in the official roster of the ASSOCIATION as published in the JOURNAL.

Members of the standing Committee on Official Standards were elected in accordance with the amended By-Law adopted by the ASSOCIATION. A committee of the Council was appointed to confer with a committee of the American Association of Colleges of Pharmacy in references to A. PH. A. Branches for Students.

The Council expressed itself as being in accord with the other associations interested in the proposed study of pharmacy and agreed to furnish as the ASSOCIATION'S subscription to the cost of the study fifteen thousand dollars over a period of three years, if and when the additional sum of forty-five thousand dollars required to match the subscriptions of the American Association of Colleges of Pharmacy, the National Association Boards of Pharmacy and the A. PH. A. were obtained from other sources under the conditions set out in the report submitted to the Council.

A meeting of the Council or of an Executive Committee of the Council has not been found necessary during the year and the business of the Council has, therefore, been transacted by mail in the interim. Nine Council letters covering 42 pages and submitting seventy-six items of business and twenty-six motions have been submitted to the members of the Council and published in the JOURNAL.

The following are reported as among the more important items of business so transacted:

The contract for printing and publishing the JOURNAL was awarded to the Mack Printing Company of Easton, Penna.

The investment of cash balances in the Endowment, Centennial, Research, Life Membership, Procter Monument and Remington Honor Medal Funds in approved bonds was authorized and these bonds were purchased at favorable prices.

A budget of $41,210.00 for the expenses of the ASSOCIATION for 1930 was approved.

The accounts of the ASSOCIATION for 1929 were audited by W. A. Johnson and Co., Certified Public Accountants of Baltimore, Md., and their report together with a summary of the accounts was published in the March issue of the JOURNAL.

The resignation of E. H. Gane as a member of the Committee on Unofficial Standards was accepted with regret and Dr. H. W. Youngken was elected to fill the unexpired term of Mr. Gane.

Thomas Roach was elected a member of the Committee on Recipe to fill the unexpired term of the late Mr. P. Henry Utech.

Mr. S. Y. Harris was elected as Local Secretary for the 1930 Meeting and the Hotel Emerson was chosen as official Headquarters.

Messrs. J. H. Beal, S. L. Hilton and E. F. Kelly were appointed as delegates and Messrs. R. L. Quigley, W. H. Bradbury and J. C. Wolf as alternate delegates, to the U. S. P. Convention in Washington, D. C., May 13, 1930.

One meeting of the Council has been held in Baltimore at which the following business was transacted:

The Chairman of the Council has been authorized to appoint a committee to study means of improving the YEAR BOOK.

An appropriation was made to the Committee on Pharmacy Week for the continuation of their work.

The following Honorary Members were elected:

Dr. Albert Goris, of France; Dr. Rudolpho Abino Dias Silva, of Brazil; Dr. Armando Soto Parada, of Chile, as a recognition of their prominence in and services to pharmacy.

The Honorary President, Secretary and Treasurer of the ASSOCIATION were nominated for election by the House of Delegates, and their names will be submitted in a separate communication.

In addition, a number of reports were received for the information of the Council in reference to the property, funds and publications of the ASSOCIATION.

Respectfully submitted,
S. L. Hilton, *Chairman*,
E. F. Kelly, *Secretary*.

The report of the Council was accepted.

There being no further business to come before this session, the First Session of the House of Delegates was adjourned.

SECOND SESSION.

The Second Session of the House of Delegates, A. PH. A., was convened by Chairman R. L. Swain, May 7th, at 8:00 P.M.

It was voted to dispense with the roll call of delegates.

The minutes of the First Session of the House of Delegates were read by Secretary Kelly and approved. (See minutes of the First Session.)

Chairman S. L. Hilton presented the report for the Committee on Legislation. After an amendment, accepted by the Chairman, the report was approved. (This will be printed, later, under Committee Reports.)

Chairman George D. Beal submitted the report for the Committee on Cosmetics, which on motion duly seconded, was accepted. (It will be printed under Committee Reports.)

The following report on Pharmacy Corps in the U. S. Army was presented by A. L. I. Winne. On motion of R. S. McKinney and seconded, the report was accepted. It follows:

REPORT OF THE COMMITTEE ON PHARMACY CORPS IN THE UNITED STATES ARMY.

In presenting this report on the Pharmacy Corps Bill, the Committee thinks it appropriate to extend this presentation to include the Parker Bill, the Bill to provide a Commissioned Medical Service in the Veterans Bureau, and to the classification accorded pharmacy by the Personnel Classification Board. The central thought in each instance is identical, and the progress made in these several directions depends upon an acceptance of the same fundamental principles.

The bill to create a Pharmacy Corps in the Medical Department of the United States Army was introduced into the present Congress by Representative B. Carroll Reece of Tennessee and Senator Royal S. Copeland of New York. The present bill is identical with the measure introduced into the preceding Congress by Representative Clyde Kelly of Pennsylvania, whose interest and support have been consistently and efficiently given to the bill. Representative Reece is a member of the Military Affairs Committee of the House of Representatives, to which the bill was referred, and thus occupies a position of strategic importance. Senator Copeland is a physician who has held a high place in public health administration and is alive to the dangers inherent in a careless and irresponsible pharmaceutical service as is now in effect in the United States Army. The support and coöperation given by Representative Reece and Senator Copeland have been most helpful in bringing about the good position which the bill now occupies.

No hearing has been held on the present bill. However, this is not so important as the data which was submitted at the hearing held on February 20, 1929, is in the hands of the Military Affairs Committee. At this hearing, the wholly unsatisfactory nature of the pharmaceutical service in the United States Army was called to the attention of the committee. It was shown that nowhere in civil life would the army conception of pharmaceutical service be tolerated. Convincing testimony was submitted setting forth the dangers surrounding the army system. This hearing was fully reported by Mr. A. L. I. Winne, Chairman of the Committee on Pharmacy Corps Bill in 1928, and is reverted to here so that the record may be made continuous and accurate. It is the intention of those sponsoring the Bill to press for another hearing so that additional data may be submitted.

Much educational work has been done, however, to impress upon the members of the Congressional committees having the legislation in charge the essential nature of pharmaceutical work and of its value to public health. Every pharmaceutical association, every board of pharmacy and every college of pharmacy in the states represented on the Military Affairs Committees of the Senate and House have been enlisted in the work. The coöperation and support given by them have been splendid. The effectiveness of their efforts has been manifested in the increased interest which the members of Congress have shown in the measure. This committee wishes to express its very sincere appreciation for the fine spirit which has been shown. It is quite obvious that the purposes of the Bill have become better known and a more intelligent conception of pharmacy and the professional service which it performs have resulted from the informative and educational effort which has been made. Several members of the Senate and House Committees have expressed themselves as in favor of the Bill and as desirous of having it passed. There is no doubt that the efforts of establishing a dependable pharmaceutical service in the United States Army are now closer to success than ever before.

It is true that the Surgeon General of the Army and the Secretary of War are opposed

to this procedure. They have taken the position that there is no need to set up an individual pharmacy corps and that certain administrative difficulties would result. This has been the view expressed on other occasions when other public health groups sought an arrangement commensurate with their work. It is purely a personal view, in no way related to the fundamental principles involved, and need occasion neither alarm nor surprise. It is the intention of organized pharmacy to persist in this effort fully conscious of the intrinsic merit of what is proposed. True, personal antagonism, based on a provincial and archaic conception of the principles at stake, may succeed in defeating our efforts temporarily. The educational work which is being done will eventually stimulate Congress to inquire into the sense of responsibility which should characterize the administration of health matters in the army. When this is brought about, the personal viewpoints of the Surgeon General or the Secretary of War need give no concern.

This committee wishes to thank the pharmaceutical press for the splendid support which it has given. The bulletins of general information, which have been sent out, have been well received and much valuable space given to the work. The widespread interest which the pharmaceutical profession has shown in the undertaking is due largely to the pharmaceutical press. The thanks of the committee are due in a generous measure to Dr. E. F. Kelly, Secretary of the AMERICAN PHARMACEUTICAL ASSOCIATION. He has carried much of the load and has developed the contacts with Congress which have been so very helpful. Without his help and advice the progress and advancement which has been made would not have been possible.

Brief mention should be made here to the Bill to provide a Commissioned Medical Service in the Veterans Bureau. This measure was introduced into Congress by Representative Johnson of South Dakota, and provides for a Medical Corps, Dental Corps and Nurses Corps, but does not provide for a Pharmacy Corps. The importance of this measure is to be seen from the fact that there are about sixty hospitals devoted to the care of the veterans of the World War. This committee, in coöperation with the AMERICAN PHARMACEUTICAL ASSOCIATION, the American Association of Colleges of Pharmacy and the National Association of Boards of Pharmacy, met before the Committee on Veterans Bureau Legislation and presented arguments and data favoring the creation of a Pharmacy Corps in this service. The committee was most attentive and showed a marked interest in the facts presented.

While the Pharmacy Corps Bill has not been passed, success has been met with in closely related fields. The Parker Bill was enacted, which places Pharmacy on the same standing as medicine and dentistry and the other public health professions in the Public Health Service. This is the first real recognition given to Pharmacy in the governmental services and is of profound significance.

Brief mention should also be made to the professional rating accorded pharmacy by the Personnel and Classification Board of the United States. Heretofore pharmacists in the Government services had been listed either in the sub-professional group or in the clerical and administrative service. During the year representatives of the AMERICAN PHARMACEUTICAL ASSOCIATION, the American Association of Colleges of Pharmacy and the National Association of Boards of Pharmacy went before the Personnel and Classification Board and protested against the classification of pharmacists in a sub-professional group. At this meeting seriously prepared statements were submitted in which the educational qualifications of the pharmacist and the professional services which he renders were clearly set forth. It was shown that the classification in effect in the governmental services was inconsistent with the facts involved. The Personnel and Classification Board was urged to give the matter further study to the end that pharmacists might be given professional classification. In a report which the Personnel and Classification Board has just issued, the objections placed before the committee have been met. Pharmacists now are classified by the Personnel and Classification Board in the Professional and Scientific Service. It would be difficult to overestimate the significance of this achievement. It marks a great change in viewpoint of governmental authorities and foreshadows success in the other efforts which pharmacy is making for a recognition commensurate with the responsible service which it carries on.

(Signed) A. L. I. WINNE, A. C. TAYLOR, S. L. HILTON, JOHN C. KRANTZ, JR., S. Y. HARRIS, B. OLIVE COLE

ROBT. L. SWAIN, *Chairman.*

E. G. Eberle presented a report on the European Pharmacy Corps and asked that a vote of thanks be given to Secretary J. J. Hofman, of the International Pharmaceutical Federation, for his assistance in the compilation of the report which follows:

PHARMACY CORPS IN EUROPEAN ARMIES.

It will be noted that the report is largely made up from questionnaires and submitted accordingly.

Switzerland.—1. What is the number of Military Pharmacists on duty in time of peace?—In time of peace there is only one Military Pharmacist on duty, and that is the Chief Pharmacist of the Army.

2. What is the number of Reserve Pharmacists?—The number of Military Pharmacists in our Army with the status of Reserve Pharmacists is about 140.

3. What rank do the Pharmacists hold in the army?—The Military Pharmacists hold the ranks of Lieutenant, 1st Lieutenant, Captain and Major.

4. With what rank do they begin their duties?—They begin their duties with the rank of Lieutenant.

5. To what rank can they reach?—They can reach the rank of Major. The Chief Pharmacist of the Army up to the rank of Colonel.

6. Are there any assistant Pharmacists, any aides with diplomas; aides without diplomas among the Military Pharmacists, and how many?—Since we do not have Military Pharmacists properly so-called, there are no assistant Pharmacists, aides, etc.

7. What are the duties of Military Pharmacists?—*a.* In the hospitals; *b.* In the camps; *c.* In the laboratories; *d.* In time of war. Our Military Pharmacists belong to the head quarter staff of the sanitary groups, field hospitals, or in units such as sanitary companies, ambulances, sanitary trains, military sanitary establishments where they act as section chiefs or only as Pharmacists to guarantee pharmaceutic service. A certain number of military pharmacists with the rank of Captain, can be put in command of a sanitary company. These duties are the same in the time of peace as in time of war.

8. In case of mobilization, how is the hospital service assured?—In case of mobilization, hospital service is assured by allowing them the personnel strictly necessary, or in militarizing certain civil hospitals. Military hospitals in the true sense of the word, do not exist with us.

Belgium.—The rule is to furnish no information regarding the Belgium Army, except to accredited military attachés, accredited in Belgium.

Great Britain.—There are no pharmacists employed as such in the British Army. The Army has a grade of "dispensers;" they are privates or non-commissioned officers of the Royal Army Medical Corps who have taken a course of dispensing at the Army School of dispensing at Aldershot. This school is at present in the charge of a pharmacist who is a civilian in the employ of the Army. In spite of long-continued pressure by the pharmaceutical service upon a satisfactory basis on the grounds (*a*) of economy and (*b*) that the present arrangement whereby the Army trains its own dispensers has been found perfectly satisfactory in practice.

Italy.—The pharmaceutical service in the Italian army has been separated into chemical pharmaceutical officers in permanent effective service and the reserves.

The former are recruited from military or civil persons having degrees in chemistry and pharmacy, or else degrees in chemistry only, and a diploma in pharmacy. The latter from young men having such diplomas who have duties of enrollment. For their preparation there is provision through a special course held at the Military Sanitary School in Florence. Moreover, there can be transferred upon the roster of reserve chemical pharmaceutical officers these men or officers in the reserve from other arms of the service, who, after satisfying their duties of enrollment, have proved that they possessed the academic titles above mentioned. Such officers form a part of the sanitary corps on a separate roster, with the rank of Colonel, and is directly dependent upon the Director General of Military Sanitation, the rôle of such officers in S. P. C. is made up as follows: one Colonel, 4 Lieutenant Colonels, 26 Majors, 41 Captains, 45 Lieutenants, total 117.

The work of such officers is principally in hospitals and infirmaries of the kingdom and of the colonies, also in a special establishment known as the "chemical pharmaceutical military," which is directed by a Lieutenant Colonel and has the object of preparing divers medicine and

medical substances in addition. Chemical pharmaceutical service has at its disposal a chemical bromatological laboratory which has particular charge of hygienic supervision of the rationing of soldiers.

In control of the pharmacy of every establishment for the treatment of the sick there is placed a Lieutenant Colonel or else a Major or Captain, according to the importance of the service involved. To every pharmacy there is added a shop for chemical and bromatological analyses.

There are no Assistant Pharmacists as officers of reserve. Regarding war service this has about the same scope as that of peace. In the various sanitary units mobilized or territorial according to a schedule which is now in course of preparation. .

Czechoslovakia.—1. The number of active military pharmacists is 58 in time of peace.

2. The number of Reserve Pharmacists is according to circumstances. It is not permitted to tell the present number.

3. The Military Pharmacists advance in this time from the rank of Lieutenant to the rank of Colonel. In the new system, which is in question, it is the intention to give them the rank of General. Military Pharmacists begin duties with the rank of Lieutenant. They can arrive as far as the rank of Colonel. Only a graduate pharmacist can become an officer in the military organization. Besides, there are subordinate officers who are in auxiliary service not having special practice.

4. The duties of Military Pharmacists are: *a. In the hospitals:* The Chief and Assistant Pharmacists who are attached to different hospitals. *b. In the camp:* Chiefs and Assistant Pharmacists in stationary pharmacies and in camp pharmacies in case of the necessity of reserve. Reporters of the superior command. Heads of the chemical laboratories. Commanders of sanitary military supply posts in camps. *c. In laboratories:* Heads of chemical laboratories. *d. In time of war:* The duties of Military Pharmacists are the same as in time of peace and as under *b*. *e. In time of peace:* Reporters of the superior command. Commanders of permanent sanitary supply posts and Superintendents of different sections of these posts. The heads of the Pharmaceutical Department and reporters for the War Departments.

Low Countries (*Holland*).—1. Number of Military Pharmacists, 8. 2. Number of Reserve Pharmacists, 7. 3. There are at present: 1 Lieutenant Colonel, 5 Majors, 2 Captains, 5 Reserve Captains, 4 Reserve 1st. Lieutenants. Besides that, there are 20 Pharmacists' Aides. (Special diploma, with the rank of 2nd Lieutenant.) In the Marine Hospital there are: one Pharmacist, three Assistant Pharmacists.

4. The Military Pharmacists commence with the grade of 1st Lieutenant. They can become Colonel; Reserve Pharmacist also.

5. Assistant Pharmacists have a state diploma like assistants in civil pharmacies, besides there are soldiers attached to the hospitals who work in the Tisannerie. Tisannerie is that part of a hospital where they prepare Tisanes. The latter are drinks furnished to the sick, consisting of water in which is boiled sugar and certain medicines.

6. Military Pharmacists have charge and administration of hospitals. In the central military laboratories they take care of the analysis of chemical substances and the preparation of pharmaceutical products; they also make chemical analysis of food products, etc., for the administration.

7. When the Army is mobilized, the Reserve Pharmacists are named in active service.

Dutch East Indies.—1. There are: 1 Colonel Pharmacist, 1 Lieutenant Colonel, 3 Majors, 10 Captains, 12 First Lieutenants. The number of Assistant Pharmacists is about 30, with the rank of 2nd Lieutenant.

2. The number of Reserve Pharmacists is not limited and depends on circumstances.

3. Pharmacists start as 1st. Lieutenants. They can become Colonel. The diploma of the Assistant Pharmacist is the same as in Holland.

4. Military Pharmacists in the (Dutch East) Indies perform toxicological analyses. They also work in the laboratories of the botanical garden of Buitenzorg and in the central laboratories for the analyses of food products.

5. In case of mobilization, pharmacies are also detached to temporary hospitals.

Spain.—1. The number of active Military Pharmacists in time of peace: Pharmaceutic Inspectors at the Ministry, 4; Technical Superintendent, 1; Central Laboratory, 10; Military

Sanitary Institutes, 1; Orphan Asylums, 2; Pharmacists at hospitals and depots of medical supply, 67; Local Pharmacies, 49; Military Academies, 5; Districts under inspectors, 11.

2. The number of Reserve Pharmacists is not limited. At the present time there are 15. There is a scale of reserve on which the completion is made.

3. The ranks of the Pharmacists in the Army: Pharmaceutic Inspector, Brigadier General, 1st Under-Inspector, Colonel; 2nd Under-Inspector, Lieutenant, Colonel, Major, Major Pharmacist, Commander, 1st Pharmacist, Captain, 2nd Pharmacist, Lieutenant. Pharmacists commence their duties with the rank of Lieutenant. They can become Brigadier General. 4. There is a practical Pharmaceutic Military Corps. Admission to this corps is after examination. There are also hospital soldiers, preferably those who in civil life were assistants in a civil pharmacy; besides, there are civil attendants for menial service.

5. The functions for military service are: *a*. In hospitals: Dispensing medicines and making analyses. *b*. Services according to their quality. *c*. In the laboratory they all do toxicological, pharmaceutical analyses, etc. *d*. Same services as in peace times. There is a central depot which furnishes everything that is required in the country, including the Islands and Colonies.

Germany.—1. Military Pharmacists. Ranks up to Colonel. 2. In Germany there are no longer Reserve Pharmacists, now that the furlough (Beurlaubtenstand) is done away with. Preparations for mobilization cannot be made in Germany, because of the treaty of Versailles.

Poland.—The number of active Military Pharmacists in peace times is 133. Pharmacists in the Polish Army have all the ranks from 2nd Lieutenant to General. Military Pharmacists start their duties with the rank of 2nd Lieutenant.

In Pharmaceutical Service, only licensed pharmacists can exclusively be considered professional officers. (Masters in Pharmacy.)

The duties of Military Pharmacists are as follows: *a*. In the hospitals as managers of Pharmacies and their aides. *b*. In camps in the Pharmacies, the chemical and bacteriological laboratories, in the service of combating asphyxiating gas, but in the latter, only as administrators. *c*. In the laboratories as analysts. *d*. In time of war their duties are analogus to *b*.

In case of mobilization as administrators, professional officers, other functions, reserve officers.

Chairman Swain stated that the report which had just been made would give the Committee on Pharmacy Corps in the U. S. Army needed information. On motion made by Ambrose Hunsberger and duly seconded, Mr. Eberle was requested to continue investigation of other foreign pharmacy corps.

On motion by E. G. Eberle seconded by James H. Beal, it was voted to extend thanks to, Dr. J. J. Hofman, the Secretary of the International Pharmaceutical Federation for his assistance in compiling the information presented in the report.

Chairman Lyman F. Kebler stated that he had no report for the Committee on U. S. P.

Chairman Leon Lascoff presented the report on the Pharmaceutical Recipe Book. On motion by Jacob Diner and a second, the report was received for publication. (It will be printed under Committee Reports.)

The Secretary presented a communication from the Council nominating the Honorary President, Secretary and Treasurer.

Upon motion of J. G. Beard, seconded by E. G. Eberle, it was voted to receive the report and elect the nominees; namely, Elie H. LaPierre, *Honorary President;* E. F. Kelly, *Secretary;* C. W. Holton, *Treasurer.*

Chairman James H. Beal presented the report of the Committee on Nominations. After presentation he asked that the report be referred back to the Committee for revision; several of the nominees for the Council being members, it was so voted.

The report of the Committee on Transportation was made by Chairman Bradley. He spoke about the progressive work of the Committee and was gratified to report that the number of certificates exceeded the number required for the reduced return trip of those in attendance. On motion of A. L. I. Winne, seconded by C. P. Wimmer, the report was received.

Chairman Bradley reported for the Committee on Place of Meeting. He explained that quite a number of cities had extended invitations and as the interest was very great he asked that a

vote be taken to decide on the place of meeting. The places submitted by the Committee and to be voted on, were Atlanta, Dallas, Memphis, Miami and Salt Lake City.

On suggestion of the Chairman it was decided to have an elimination vote for the purpose of deciding which two cities out of the five had the largest number of supporters and in the event that the first ballot did not give any city a majority then there would be a second vote. It was voted to give the representatives of each of the cities an opportunity to present the respective advantages. The following presented the claims of the cities named:

Robert C. Wilson spoke for Atlanta; Walter D. Adams for Dallas; A. R. Bliss for Memphis; James H. Beal for Miami; W. Bruce Philip for Salt Lake City. The vote favored Miami as the place of meeting for 1931. On motion by Walter D. Adams, duly seconded, Miami was unanimously chosen for the 1931 meeting.

The Committee on Nominations made their report as follows:

Chairman of the House of Delegates, C. B. Jordan of Indiana; *Vice-Chairman*, Thomas Roach of Oklahoma. On motion, duly seconded, and a vote, these officers were elected.

A further report of the Committee was then submitted, presenting the following as nominees. (Election will be by mail ballot.)

The report of the Committee, on motion duly seconded, was received and adopted, naming the following nominees:

President: Walter D. Adams, Forney, Texas; Herbert M. Lerou, Norwich, Conn.; Robert L. Swain, Baltimore, Md.

Vice-President: J. G. Beard, Chapel Hill, N. C.; Adley B. Nichols, Philadelphia, Pa.; Samuel Y. Harris, Baltimore, Md.

Second Vice-President: J. W. Dargavel, Minneapolis, Minn.; H. C. Newton, Omaha, Nebr.; Earl R. Serles, Brookings, S. Dak.

Members of the Council: H. A. B. Dunning, Baltimore, Md.; S. L. Hilton, Washington, D. C.; J. A. Koch, Pittsburgh, Pa.; Denny Brann, Des Moines, Iowa; Charles J. Clayton, Denver; Ambrose Hunsberger, Philadelphia, Pa.; Leonard Seltzer, Detroit, Mich.; A. C. Taylor, Washington, D. C.; A. L. I. Winne, Richmond, Va.

Chairman Robert P. Fischelis stated that the Committee on Resolutions had no report to make at this time.

The Second Session of the House of Delegates was then adjourned.

Third Session.

The Third Session of the House of Delegates was called to order by Chairman R. L. Swain, Friday, May 9th, at 9:00 A.M. The roll call of delegates was dispensed with.

Secretary Kelly read the minutes of the Second Session. They were approved as read.

A resolution from the Section on Commercial Interests was received and referred to the Committee on Resolutions.

Secretary Kelly submitted the following verbal report as Chairman of the Membership Committee:

"As Chairman of the General Membership Committee, there are very few things I care to add for the Committee in addition to my report as Secretary of the Association. It has been customary for the Secretary to act as Chairman of the Membership Committee for the work is more or less interlocking. All statistical data with reference to membership, as you may recall, was included in the general report. I would like to refer to the very fine support we have had from the various branches. Mr. VanSchaack of Chicago, who is chairman of the membership committee of that branch, has carried on correspondence with manufacturers and wholesalers in the country and materially increased our membership in that group. I want to mention that particularly, for it shows what can be done with a persistent campaign of that type. He selects a list each year and sends out a splendid letter, followed up with two or three more. The blank we have used has been found successful; it contains quite complete information relative to the A. Ph. A. It will be revised and we are glad to furnish them. Mr. Christensen and I have discussed the membership work and hope to do more during this year, because of the longer period. It requires more than just a persistent effort and we will appreciate the assistance of all of you and will furnish all the coöperation that our office can furnish. May I add one important point, and that is that the proportion of retail pharmacists who are joining the Association remains

about the same. The check-up this year would show the figures I gave last year of sixty or seventy per cent holds good, and in all of the cards we have sent out on the YEAR BOOK and other publications, we are asking all members to check on the card as to what group they belong. If we seem persistent, I would like to explain that with each effort we get a considerable number of additional names and that makes the statistical data more valuable."

On motion of G. L. Curry, duly seconded, and a vote, the report was accepted.

Chairman Youngken submitted the following report for the Committee on Horticultural Nomenclature: It follows:

REPORT OF THE COMMITTEE ON HORTICULTURAL NOMENCLATURE.

To the House of Delegates of the American Pharmaceutical Association:

Your committee desires to report that it has checked the entire list of scientific plant names appearing in "Standardized Plant Names" against those found in the drug definitions of the U. S. P. X and N. F. V, and published monographs of the Committee on Unofficial Standards of the A. PH. A.

As a result of this work we have found a large number of medicinal plants not represented in the current edition of "Standardized Plant Names."

The Chairman of your committee has prepared a list of these and some addition of unofficial medicinal plants, products of which are found in the American drug market which, after careful scrutiny by each of the committee members will be submitted to the Executive Committee of the American Joint Committee on Horticultural Nomenclature with a request that these plants be included in the second edition of "Standardized Plant Names." We understand that this work is about to undergo revision.

(Signed) E. N. GATHERCOAL
C. W. BALLARD
HEBER W. YOUNGKEN, *Chairman*

(*The reports submitted herewith, unless otherwise stated, were accepted; if not printed immediately following the presentation the report will appear, later, under "Committee Reports."*)

Chairman Robert J. Ruth reported for the Committee on Pharmacy Week.

W. Bruce Philip remarked that the burden of the work on Pharmacy Week had been carried by the Chairman, and its success is due to him.

Charles J. Clayton said that Chairman Ruth is entitled to more credit than he has received. He remembered well when the report was made, which resulted in the work so ably being conducted by Mr. Ruth.

Rowland Jones said that the work Chairman Ruth had been doing has resulted in much good. He had been impressed with the value of the radio publicity and was surprised at the number of people who came in and referred to the various talks over the radio.

Dr. H. S. Wellcome congratulated the Chairman for the magnificient success which his promotion had obtained not only in the United States, but in England and other parts of the world.

William B. Day made favorable comment.

Chairman Ruth again expressed his satisfaction and thanks for the coöperation he had received. He then gave a brief account of the origin of Pharmacy Week and its growth. He was much pleased by the splendid spirit evidenced in correspondence received from nearly every foreign country. He said the work was now of an international character.

James H. Beal stated that this work was another evidence of the importance and value of the AMERICAN PHARMACEUTICAL ASSOCIATION to pharmacy. He said that when the idea was first proposed he recognized its possibilities but did not anticipate the great success with which it had met. In this instance the idea was presented by a man who had the enthusiasm and persistence to carry on. On motion of H. V. Arny the report was received and a rising vote of thanks given to Chairman Ruth.

The report of the Committee on the Wm. Procter, Jr., Memorial Fund was made by Chairman James E. Hancock:

REPORT OF THE COMMITTEE ON THE WILLIAM PROCTER, JR., MEMORIAL FUND.

The Committee on the William Procter, Jr., Memorial Fund is prepared to adapt its plans to meet any reasonable requirement of the Committee on Plans for the A. PH. A. Headquarters

Building, so that the proposed monument to the "Father of American Pharmacy" may be erected either within the building or on its grounds.

The Committee is pleased with the present prospects for an early fulfillment of its duties.

Realizing that this report may seem terse, and aware of the fact that some members of our ASSOCIATION do not understand the reasons why the erection of the William Procter, Jr. Monument has been delayed, it may be well to explain that when the money had been collected and the model for the Monument submitted to the Fine Arts Commission for its approval, we found that Commission preparing general plans to beautify the City of Washington. Your committee had asked for a site in the vicinity of the Smithsonian Institute, but a definite location was not available at the time because the Fine Arts Commission had not determined the lines for the new avenues of approach to the Lincoln Memorial. The Commission also apparently objected to the further erection of personal statues in Washington, and endeavored to persuade us to adopt a symbolic monument, which we neither fancied, nor were able to erect within the money that had been collected. Then the War came on, and the Fine Arts Commission became so engaged in placing emergency buildings that it was impossible for us to make any progress, although we might have compromised the matter at one time by accepting an inconspicuous site near the Navy Yard, which your committee felt would not have dignified this ASSOCIATION.

Later it was decided to erect the A. PH. A. Headquarters Building in Washington, and we suggested that it would be a happy circumstance if the William Procter, Jr., Monument were made one of the features of this proposed Headquarters Building.

Here we will be able to coöperate with the architect to insure its proper setting as regards background and perspective and, by avoiding a symbolic fabrication that would mean but little, transmit to posterity the physical appearance of William Procter, Jr.—"The Father of American Pharmacy."

We live in a changing world, where the fashion of to-day is not necessarily the fashion of to-morrow. Ever since men have attempted to perpetuate the characters of their age, they have done it most effectively when they have portrayed them as they were; while symbols are so apt to be engulfed and forgotten in the relentless ocean of time that they eventually become meaningless.

We hope that this recital of facts will convince our membership that these delays were but the intervention of a kindly fate which will permit us to erect a memorial that will be even more useful to the AMERICAN PHARMACEUTICAL ASSOCIATION than was anticipated.

H. S. Wellcome moved that the report be accepted and offered as a suggestion that this movement should be within the building rather than on the grounds because of weather conditions. He recommended that the monument be placed in the rotunda of the building itself. He was interested in the movement to perpetuate the memory of Professor Procter, who along with Professor Maisch and Professor Bridges were his beloved professors. Chairman Hancock said that he was pleased to know of Mr. Wellcome's views relative to the memorial.

James H. Beal said that the Procter memorial fund was originated as a Procter monument fund with the idea that it should take the form of a monument. There was some objection by the Fine Arts Commission to the establishing of further personal monuments in the city of Washington and that interferred with the collection of funds to a considerable extent. Personally he preferred to have Professor Procter's memorial perpetuated in a laboratory or a fund for research, or something that would have a continuing effect. If a research laboratory were to be built to honor the memory of Professor Procter, a medallion to preserve the features could be placed in the American Institute of Pharmacy. He stated that he is heartily in sympathy with the work.

The report of the Committee was accepted.

A report of the Committee on Local Branches was presented by Chairman O'Connell and on motion duly seconded accepted. It follows:

REPORT OF COMMITTEE ON LOCAL BRANCHES.

Within the present year there has been unusual activity evidenced by Local Branches which to many indicates clearly a hopeful sign. Undoubtedly, the lack of intimate contact with retail pharmacy has militated greatly against much enthusiasm among retail pharmacists for the AMERICAN PHARMACEUTICAL ASSOCIATION. Too frequently there has been among the rank and

file, too little knowledge of the tremendous lever afforded retail pharmacy in its striving for more favorable public notice by this potentially effective organization. The universality of the activities, ideals and appeal of the AMERICAN PHARMACEUTICAL ASSOCIATION has not been made clearly evident to the vast majority of those interested in pharmacy, and your committee feels that the proper utilization of local branches in bringing home the value of and necessity for this national organization among those interested in pharmacy is becoming increasingly more necessary. It is the opinion of your committee that the Local Branches now in operation should be encouraged to extend their scope of usefulness to the retail pharmacists and, in addition, serious consideration should be given to the establishment of additional branches in areas where their establishment is warranted. With the report is appended report of the activities of various branches whose programs indicate a wide range of diversified and valuable subjects.

Respectfully submitted,

C. LEONARD O'CONNELL, *Chairman*.

Chairman J. G. Beard, of the Committee on Pharmaceutical Syllabus was presented, which on motion duly seconded was accepted:

ANNUAL REPORT OF THE CHAIRMAN OF THE PHARMACEUTICAL SYLLABUS COMMITTEE FOR THE YEAR 1929–30.

Very little material progress in the revision of the Syllabus has been made during the eight-month period since the Committee last met. Several reasons are responsible, the more important being:

1. Ordinarily the Chairman has the summer vacation period immediately preceding annual meetings during which he can lay aside college duties and concentrate on revision work. This year, of course, no such opportunity was offered.

2. Executive obligations to the American Association of Colleges of Pharmacy have consumed the major portion of the Chairman's free time since last August, a condition that ceases with the May election of new officers.

3. Since the Association of Colleges at the annual meeting this year will discuss and fix upon the character of instruction to be offered in the four-year course, and since the Syllabus should in so far as possible conform to what college authorities agree upon as desirable subject matter, it was deemed advisable to await the result of their deliberations and final decision before determining Syllabus content.

In spite of the above conditions a great deal of correspondence has been carried on between the Chairman and members of the Committee and between the Chairman and college deans for the purpose of ascertaining what subjects should be included in the next revision and what weight should be assigned each acceptable subject. This correspondence disclosed such extreme differences of opinion as to make it evident that no outline that can be prepared will reconcile the points of view of the extremists.

One group that reported would have the Syllabus confined in its scope almost entirely to technical subjects. Another lays emphasis upon business courses. The third stresses with equal force the inclusion of a large amount of cultural studies and opposes the addition of commercial courses. The question naturally arises of whether a middle ground can be reached or a compromise effected that will partly satisfy each of the conflicting schools of opinion.

In furtherance of this idea the Chairman feels that with all subjects to be included counting 100 points, assignments in the new Syllabus should be approximately as follows: Scientific Subjects (including all technical work in pharmacy and embracing as well allied studies in chemistry, botany, etc.), 60 points; Cultural Subjects (including mathematics, English, and one foreign language, history and two electives), 25 points; Business Subjects (including applied economics, accounting, salesmanship and merchandising), 15 points. This would mean that one year would be assigned to Arts studies and three years to vocational instruction. The Chairman feels that the Syllabus Committee should be liberal in allowing electives but that the choice of electives should be confined to those prescribed in the revision.

The Chairman is taking advantage of this opportunity to request that board examiners and teachers give him the benefit of their views on Syllabus construction. If such coöperation is liberally furnished the Syllabus can then reflect the opinions not merely of the small group that is charged with the revision, but of examiners and teachers generally. If the Syllabus is to be

widely followed and satisfy the needs of a majority of the boards and colleges there must enter into its revision the thoughts and advice of a large number of pharmacists. In furtherance of this idea the plea is made that every hearer and reader of this report send in to the Chairman as soon as possible an expression of opinion regarding the character and scope of subject matter that should be included in the new revision.

A meeting of the entire Syllabus Committee is hereby called for 4:30 o'clock, Wednesday afternoon, May 7th in the Green Room of the Hotel Emerson. If a quorum fails to be present the Chairman will secure an extended conference with the Executive Committee and lay final plans for Syllabus publication.

The organization and personnel of the Syllabus Committee is now as follows:

Executive Committee:

J. G. Beard, *Chairman.*
R. A. Lyman, representing the A. PH. A.
A. L. I. Winne, representing the N. A. B. P.
T. J. Bradley, representing the A. A. C. P.

General Committee:

Representing the A. Ph. A.

H. H. Rusby, of New York
W. G. Gregory, of New York
W. H. Rudder, of Indiana
W. C. Anderson, of New York
E. G. Eberle, of Maryland
E. R. Serles, of South Dakota
R. A. Lyman, of Nebraska

Representing the N. A. B. P.

W. D. Jones, of Florida
C. J. Clayton, of Colorado
R. L. Swain, of Maryland
A. L. I. Winne, of Virginia
R. W. Sterling, of Illinois
John Culley, of California
M. N. Ford, of Ohio

Representing the A. A. C. P.

G. L. Curry, of Kentucky
J. G. Beard, of North Carolina
E. V. Lynn, of Washington
E. F. Cook, of Pennsylvania
D. B. R. Johnson, of Oklahoma
C. H. Stocking, of Michigan
T. J. Bradley, of Massachusetts

The following is a financial statement of receipts and expenditures as of May 1, 1930.

Balance on Hand from 1929–1930		$293.00
Receipts since last meeting:		
Contributions from A. PH. A. (two years)	$100.00	
Contributions from N. A. B. P.	50.00	
Contributions from A. A. C. P.	50.00	
Syllabus sales (2 copies)	4.00	204.00
Disbursements:		
Mimeographing	3.00	3.00
Cash Balance on Hand		$494.00

Respectfully submitted, J. G. BEARD, *Chairman.*

Secretary E. F. Kelly, in the absence of Chairman Leonard, presented the report of the Committee on Weights and Measures. He stated that measures favoring the adoption of the metric system were again introduced in Congress. The A. PH. A. is a member of the Metric Association and has gone on record on a number of occasions favoring the metric system.

The report was accepted.

Secretary Kelly also presented the report of the Committee on International Pharmaceutical Nomenclature in the absence of Chairman DuMez. The report was received. It follows:

REPORT OF THE COMMITTEE ON INTERNATIONAL PHARMACEUTICAL NOMENCLATURE.

To the Members of the American Pharmaceutical Association:

Because of the press of other work the Chairman of your Committee on International Pharmaceutical Nomenclature has not been able to give this subject any attention this year.

I am compelled, therefore, to state that the committee, as a whole, has done no work and has no report to make at this time.

Respectfully submitted, A. G. DuMez, *Chairman.*

The report for the Committee on Coöperative Publicity was presented by Chairman Fischelis. It follows:

The Drug Trade Bureau of Public Information held its annual meeting at the Hotel Washington, Washington, D. C., on December 12, 1929. Representatives from all of the six member associations were present.

Mr. Ambrose Hunsberger of Philadelphia was reëlected *Chairman.*

Mr. H. C. Christensen of Chicago was reëlected *Secretary-Treasurer.*

Dr. Robert P. Fischelis of Trenton was reëlected *Director of the News Service.*

It was decided to make the objective for the ensuing year fifty-two news bulletins, or an average of one per week.

The finances of the Bureau were given consideration, and it was indicated that while sufficient funds were available to do active work for the next twelve months, it would be impossible to keep up the bulletin service at the weekly rate the following year unless the contributions from constituent organizations and other interested organizations could be increased.

The bulletins issued by the Bureau find their way into the most important newspapers of the United States and are not infrequently the subject of favorable editorial comment on Pharmacy. The pharmaceutical press, as well as lay magazines, make use of the material sent out. Almost every issue of the drug journals of the country refer to some topic that has been covered in bulletins of the Bureau. Bulletins have also been made use of in the *Journal of the International Pharmaceutical Federation*, the *Literary Digest* and other magazines.

The work of the Bureau for the past ten years has undoubtedly had a favorable influence upon pharmaceutical publicity in the newspapers of the United States, and continued support of the work is recommended.

Robert P. Fischelis, *Chairman.*

Chairman Swain said if the Bureau is to function as effectively as it has during the last few months greater financial support is necessary.

Robert J. Ruth stated that the members of the Committee had a very active part in the National Pharmacy Week campaign and in his opinion more funds should be provided so that the Committee may function as it desires.

Chairman Fischelis said he had brought along with him a few samples of the kind of results obtained. He was particularly interested in favorable editorial comments on pharmacy in the newspapers. The start was made by creating a favorable reaction in the news columns. Clippings from about 500 newspapers had been received. He read the following from an editorial in the *Cedar Rapids Gazette*—on the transfer recently made by action of Congress:

"With this understanding it may be easier to induce both houses to understand the attitude of the manufacturers, chemists, druggists and those who must have alcohol in adequate quantities for industrial uses. They are not criminals and they should not have to run the gamut of suspicion to obtain their permits."

He also referred to an editorial on "New Fangled Drug Stores" in the *New York Times*, which took a German visitor to task who said he could not find a drug store in New York City.

Chairman Fischelis spoke on the *Modus Operandi* of the Bureau in saying that portions of articles in the Journal A. Ph. A. and the *N. A. R. D. Journal* were used in preparing some of the bulletins and these were sent to about 1000 newspapers. He was particularly interested in that one of the bulletins recently issued was completely reprinted in the *Literary Digest.*

Mr. Hein asked the Chairman how the funds were secured for the publicity work. The Chairman replied stating the that money came from the National Wholesale Druggists' Association, the National Association of Retail Druggists, American Pharmaceutical Association, the American Association of Colleges of Pharmacy, the National Association of Boards of Pharmacy and the Proprietary Association. The total contributed amounts to $1800.00. He remarked that those who have had any experience in mimeographing and mailing bulletins know it does not take very long to use up such an amount. The Committee could not function if it were not for the fact that the Proprietary Association has been mimeographing the bulletins and mailing them without charge, only the postage being paid for.

H. V. Arny inquired what the American Chemical Society was paying for related publicity and Chairman Fischelis replied that the allotment for publicity is upwards of $10,000.00.

C. B. Jordan expressed his appreciation for the work of this Comimttee and he was sorry that the Chairman should be hampered for lack of funds.

George Judisch asked whether it would be possible to secure funds from State associations with the distinct understanding that they be advised that the money is not for local purposes. He thought that if the matter was presented to State associations that most of them would be willing to contribute to the fund.

E. L. Newcomb said that he was a member of the Committee that organized the Drug Trade Bureau of Public Information. He said that a great deal had been accomplished and much more might be done; if those who received the bulletins would use them in stimulating interest with their local papers it would be very helpful. Chairman Fischelis knows how material of this kind should be prepared for publication, and that has a great deal to do with the publicity that results. He said that the ground work had been done and the cost for mailing the bulletins to 1000 papers would not be very much more than for 100 papers. He thought that a resolution from this ASSOCIATION would be of great value.

George Judisch said that he would like to offer a resolution that every pharmaceutical association in the country be requested to make a contribution to this work.

A. L. I. Winne said that he had been present at many of the annual meetings of the Drug Trade Bureau and had followed the work with a great deal of interest. He approved of suggestions made by Mr. Judisch.

Robert J. Ruth said that in his opinion it would be profitable to have the material sent out by the Committee remailed by State Secretaries and he was of the opinion that a state system for doing this could be worked out.

George Judisch moved that every state association be requested to make a contribution of not less than $50.00 payable to the Drug Trade Bureau of Public Information, and as much more as they see fit.

H. V. Arny suggested that no specific amount be mentioned and that the details be left to the Bureau.

W. Bruce Philip thought that the resolution here presented should be introduced at the respective state meetings by the delegates to the House of Delegates.

The motion by Mr. Judisch "that every State association be asked to contribute as much as it can, to further the work of this Bureau and that the resolution be introduced at the state pharmaceutical meetings by the delegates present at this convention."

C. B. Jordan presented the report of the Committee on Prerequisite Legislation which was accepted.

Secretary Kelly read by title the report of the Committee on Patents and Trade Marks submitted to the Association by Chairman F. E. Stewart. The report was accepted.

S. L. Hilton presented the report as delegate to the National Drug Trade Conference which was accepted. It follows:

REPORT OF THE DELEGATES TO THE NATIONAL DRUG TRADE CONFERENCE.

Your delegates to the National Drug Trade Conference herewith respectfully submit the following report:

The annual meeting of the National Drug Trade Conference was held at Washington, D. C., December 12, 1929, all organizations entitled to representation were present with a full delegation and the privileges of the floor were extended to twelve or fifteen others.

After the reading of the minutes of the annual meeting of the Executive Committee and the report of the Secretary-Treasurer, the Conference considered the report of Dr. James H. Beal's committee, to confer with representatives of the American Medical Association, having for its object concerted action looking to the elimination of non-habit forming derivatives of opium from the provisions of the Harrison Narcotic Act; as no action had been taken by the American Medical Association, Dr. Beal moved that the committee be discontinued and that the President of the Conference be authorized to appoint a committee when necessary.

The Proposed Uniform State Narcotic Act was reported on by Dr. Beal, who explained that this proposed legislation was drafted through the joint efforts of the American Bar Association

and the American Medical Association, and expressed surprise that pharmacists were not consulted, as each state narcotic law was proposed and enacted through the efforts of pharmacists. It was proposed and carried that the President be authorized to appoint a committee with one representative from each member organization to study the proposed Act and report to the Executive Committee.

The Porter Bill was discussed and a committee was appointed to confer with Congressman Porter, and submit its report to the Executive Committee.

Committee on the General Status of Pharmacy and the Drug Trade.—Chairman Rudd presented a most admirable report that elicited full discussion by all members present, by vote the Committee was continued and directed to give further study to this important question.

Standard Table of Potent and Toxic Drugs.—An excellent report was presented and discussed; it was then voted that a permanent committee be appointed to study and prepare such a table.

Cost of Medical Care.—Ambrose Hunsberger presented a verbal report showing what had been done. He stated that a satisfactory contact had been obtained for pharmacy and that data was now being collected; it was voted that the committee be discontinued but that the membership of the Conference should lend their assistance in every way possible.

Simplification of Glass Containers for Medicinal Products.—Mr. Heuisler reported that much progress had been made, questionnaires had been forwarded to the glass manufacturers for the purpose of obtaining information as to their position and that good results could be expected in the near future. The Conference voted that the delegate be continued.

Report of the Councillor.—The councillor presented a report on the activities of the Chamber of Commerce of the U. S. A. which was accepted and the affiliation of the Conference with the Chamber was continued.

Food and Drugs Act.—The enforcement of the Food and Drugs Act, especially as to multiple seizures, was fully discussed: resolutions were presented, but after objections were raised, it was voted to refer the same to the respective constituent organizations for further consideration and amendment, if found necessary.

Fair Trade Bill.—The Capper-Kelly bill was again endorsed. Since the meeting of the Conference the Committee on Inter-state and Foreign Commerce, House of Representatives, has reported the bill favorably and it will shortly be considered by the House of Representatives.

The Parker Bill, providing for granting Commissions to pharmacists in the U. S. Public Health Service, was discussed and unanimously endorsed. Since the meeting, I am pleased to report that this bill became a law April 9, 1930. Thirty-six pharmacists now in the service are eligable for commissions and they will be placed on the same basis as other professional men in the Service.

The Pharmacy Corps Bill was again unanimously endorsed.

Survey of Pharmacy and Pharmaceutical Education.—Discussion on the Survey of Pharmacy and Pharmaceutical Education was opened by Mr. Walton, who explained the progress that had been made and that the survey when completed will bring about more uniform standards for teaching, higher standards and better educated pharmacists in the future. The Conference unanimously endorsed the plan as outlined.

Samuel C. Henry, was reëlected *President*, and E. F. Kelly, *Secretary-Treasurer;* a *Vice-President* and members of the *Executive Committee* were also elected.

It was then moved that the President be authorized to appoint committees to speak for the Conference in matters of emergency, not controversial among constituent members.

Respectfully submitted, J. H. BEAL
E. F. KELLY
S. L. HILTON, *Chairman.*

Chairman Robert P. Fischelis of the Committee on Resolutions stated that the Committee on Resolutions had held several meetings and had gone over the resolutions submitted and the address of the President and the Chairman of the House of Delegates. He asked whether these resolutions be read singly and have them acted upon as read. The Chairman then read the resolutions (1–32) which were adopted. (These resolutions are printed in the May JOURNAL pages 522 to 526.)

The Third Session of the House of Delegates was then adjourned.

THE FINAL SESSION.

The Final Session of the House of Delegates was called to order by Chairman R. L. Swain on May 9th at 6:30 P.M. The roll call of delegates was dispensed with. The minutes of the Third Session were read by Secretary Kelly and approved as read.

REPORTS OF THE SECTIONS.

The following report of the Scientific Section was presented by Secretary L. W. Rowe:

The Scientific Section held two very lengthy afternoon sessions in addition to a joint session with the Section on Practical Pharmacy and Dispensing.

Seventy titles of scientific articles in the fields of pharmaceutical chemistry, pharmacology and bioassays, and pharmacognosy and botany were listed for presentation on the official program and of these thirty-six were read and the others presented by title.

New officers elected for the coming year are as follows: *Chairman*, E. E. Swanson of Indianapolis; *First Vice-Chairman*, L. E. Warren of Washington, D. C.; *Second Vice-Chairman*, R. E. Schoetzow of Brooklyn; *Delegate to the House of Delegates*, H. A. Langenhan of Seattle. The Secretary has one more year of his three-year term.

The Historian reported that all papers on the program of the Section on Historical Pharmacy had been presented and discussed or read by title. An historical exhibit of pharmacopœias, dispensatories, other old volumes and historical material had been shown thr[illegible] the week, and created considerable interest; also the progress in the making of the Pharm[illegible]l Recipe Book. The following officers were elected: *Chairman*, J. T. Lloyd, Cincinnati; *Secretary*, L. E. Warren, Washington, D. C.; *Delegate to the House of Delegates*, George D. Beal, Pittsburgh, Pa.; *Historian*, E. G. Eberle.

The Section on Commercial Interest reported a very interesting program and sessions. The following officers were elected: *Chairman*, Joseph G. Noh, Nebraska; *Vice-Chairman*, Rowland Jones, South Dakota; *Secretary*, Leon Monell, Buffalo, N. Y.; *Delegate to the House of Delegates*, Denny Brann; *Alternate*, R. B. Rothrock.

R. H. Raabe reported for the Section on Education and Legislation as follows: The session met as scheduled. Papers were read as indicated in the general program with three additional papers, making a total of 14. Two resolutions were submitted to the Resolutions Committee. The work of the Section was very interesting and papers on education and on legislation were to the point and we enjoyed very interesting discussions on them. The papers have been turned over to the Editor of the JOURNAL for publication. The officers elected are, *Chairman* B. V. Christensen; *Vice-Chairman*, R. H. Raabe; *Secretary*, E. A. Anderson; *Delegate to the House of Delegates*, Glenn L. Jenkins.

Upon motion by Mr. Ford, the report was accepted.

I. A. Becker presented the following report for the Section on Practical Pharmacy: "As the Secretary was not present, I acted as Secretary pro tempore. We had the scheduled sessions and fifteen papers were read. One resolution was referred to this body. The new officers are: *Chairman*, Ralph E. Terry of Chicago; *Vice-Chairman*, A. Ziefle of Oregon; *Secretary*, Paul Briggs of Washington; *Delegate to the House of Delegates*, H. C. Newton of Omaha."

The report of the Conference of Law Enforcement Officials was presented by M. N. Ford. It follows:

The Conference of Pharmaceutical Law Enforcement Officials held two very interesting meetings, one yesterday forenoon and the other this afternoon. The meeting yesterday morning was very interesting and well attended, much better attended than the officials had anticipated. Everyone was interested in the procedure of pharmacy law enforcement. The discussion was entered into freely and great benefit was obtained. The meeting this afternoon was also well attended. We had a fine program and the meeting was well attended. The Committee on Nominations saw fit to continue the present officers for the ensuing year and we promise you the program for next year will be interesting. Two resolutions were presented which will go to the U. S. P. Convention at Washington.

A. L. I. Winne stated that hereafter it would be more satisfactory if the conference of the Pharmaceutical Association Secretaries and the Law Enforcement Officials were not held at the same time as quite a number of those interested in one of these organizations are also interested in the other.

The report of the Conference on Pharmaceutical Association Secretaries was read by Charles J. Clayton. (To be printed in the July number of the JOURNAL.)

Chairman Robert P. Fischelis of the Committee on Resolutions introduced Resolutions 33 to 35 which were adopted.

Secretary E. F. Kelly reporting for the Committee on the Study of Pharmacy stated that the A. PH. A. is coöperating with the N. A. B. P. and the A. A. C. P. He said that the American Council of Education is coöperating and that at the present time assistance by receiving funds is requested from the three associations in order to complete the survey. The report was accepted.

Chairman R. L. Swain requested Dean C. B. Jordan to step forward. Chairman Swain thanked the House of Delegates for the close application to the work that had come before it. He then presented the gavel to Dean Jordan who said that if he could perform the duties of Chairman as well as his predecessor he will be happy. However, he assured the members of the body that he would perform the duties to the best of his ability.

Vice-Chairman Thomas Roach was then presented and installed. He expressed his appreciation of the honor conferred and also because of having membership in the A. PH. A.; he was desirous of being of service and took advantage of the opportunity to invite the members to attend the meeting of the National Association of Retail Druggists' in Atlantic City on September 15th. He also stated that he anticipated being present at the meeting of the AMERICAN PHARMACEUTICAL ASSOCIATION in Miami.

The final Session of the House of Delegates was then adjourned.

E. F. KELLY, *Secretary.*

FORMER PRESIDENT OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, H. A. B. DUNNING, ENTERTAINS LOCAL COMMITTEE AND FRIENDS.

As an expression of his appreciation, Ex-President H. A. B. Dunning entertained as guests all who participated in making the Baltimore meeting of the AMERICAN PHARMACEUTICAL ASSOCIATION a success. There were about 150 present at the dinner given by him at Hotel Emerson on June 7th. The number indicates the enthusiasm and response of Maryland pharmacists in their efforts to honor their fellow-pharmacist, contribute to a successful meeting and extend a welcome to the ASSOCIATION members. It should be stated that all of the dinner guests were not pharmacists, but all of them took part in the pre-convention and convention work.

No set speeches were made, the host spoke briefly and called upon Local Secretary Harris and the Committee Chairmen for a few words. Music and dancing followed the dinner, and all had a most delightful evening.

THE CAPPER-KELLY BILL MAY COME OUT OF COMMITTEE.

The House is to consider and may vote June 17th, on two measures for which special rules were reported June 11th. One measure is the Capper-Kelly Bill, for the passage of which the pharmacists have long been working for and there seems to be greater assurance of success than ever before; at least, there is a hopefulness for progress toward realization.

The other measure (H. R. 12,549) is the Vestal copyright revision bill, to permit the United States to adhere to the International Copyright Union.

The rules granting preferential consideration to these measures were presented to the House by Representative Purnell, of Attica, Ind., acting chairman of the Rules Committee.

OFFICERS AMERICAN DRUG MANUFACTURERS' ASSOCIATION.

The American Drug Manufacturers' Association at its recent annual meeting reëlected S. B. Penick of New York as *President.* The other officers are: *Vice-Presidents,* Nicholas H. Noyes, Indianapolis; A. Homer Smith, Philadelphia; A. C. Boylston, St. Louis; *Treasurer,* Franklin Black, New York City.

Sales research, development and maintenance were subjects of outstanding interest.

Among the speakers were Dr. J. J. Durrett and H. A. B. Dunning.

J. P. Snyder reported for the Pharmaceutical Contact Committee which related largely to ampuls. A report on glass containers was made by Dr. John C. Krantz, Jr. F. W. Nitardy was reëlected *Secretary* of the Pharmaceutical Section.

DEATH OF ALBERT HAWKINS, OF PACIFIC DRUG REVIEW.

The following paragraphs are quoted from an editorial tribute in the *Pacific Drug Review* for June:

"Pharmacy lost a brilliant contributor in the death, May 8th, of Albert Hawkins, for nearly twenty years managing editor of the *Pacific Drug Review*. His untimely death, ending a career not yet complete, came as a distinct shock and caused a feeling of irreparable loss to those who have worked with him side by side through all these years.

"Early in his connection with the *Pacific Drug Review* he established a high standard for its editorial pages and its general editorial content, both as to character and balance. This standard he maintained to the end. It gave to this publication its present position of prestige in pharmaceutical circles, both locally and nationally.

"Whatever we may say here of the man Hawkins, his own full life of accomplishment speaks with far more eloquence. Where he was modest his deeds have been bold. His work has always been merged with the whole and yet the very work he has performed stands as a testimonial to his greatness and to his unsubmergible personality.

"Pharmacy has lost a great spokesman, a loyal friend and cheerful fellow workman in the cause of bettered trade conditions and highest standards."

Sympathy is expressed to the *Pacific Drug Review* in the loss sustained in the passing of Mr. Hawkins.

OFFICERS GEORGIA PHARMACEUTICAL ASSOCIATION.

The annual meeting of Georgia Pharmaceutical Association, at Macon, was largely attended. T. A. Cheatham, the oldest living member of the Association was present; he was one of its organizers 55 years ago. Among the speakers of the convention were Clyde Eddy and J. G. Noh. President Walter D. Jones discussed the problems of pharmacists, in general, and those of Georgia, in particular, dealing especially with pharmaceutical subjects. The officers for the ensuing year are: *President*, Thomas C. Marshall, of Atlanta; *Vice-Presidents*, Claude Rountree, Thomasville; J. L. Hawk, Atlanta; M. D. Hodges of Marietta. The *Secretary-Treasurer* is elected by the Board of Directors.

KANSAS PHARMACEUTICAL ASSOCIATION OFFICERS.

Topeka was chosen for the 1931 meeting of Kansas Pharmaceutical Association. The following officers were elected for the ensuing year: *President*, Charles M. McCaughan, El Dorado; *First Vice-President*, O. A. Spence, Salina; *Second Vice-President*, Joe De Main, Macksville; *Librarian*, L. D. Havenhill, Lawrence; *Secretary* and *Manager*, Roy C. Reese, Topeka, reëlected.

OFFICERS OF INDIANA PHARMACEUTICAL ASSOCIATION.

The forty-ninth annual meeting of the Indiana Pharmaceutical Association was held at Lafayette, May 20th to 22nd in the Purdue Memorial Building. The visitors and members were welcomed to Purdue and Lafayette by Dr. A. C. Arnett of Lafayette and Dean Jordan of the Purdue school of pharmacy.

"The motive of the Indiana Pharmaceutical Association is to protect public health and the main problem of the Association is of a professional nature," said W. A. Oren of Indianapolis in a response to the welcome. Greetings from the AMERICAN PHARMACEUTICAL ASSOCIATION were brought by Secretary E. F. Kelly, and from the National Association of Retail Druggists by B. M. Keene of Indianapolis.

The opening meeting was presided over by President Carl E. Nelson of Hammond, who delivered a most interesting address. An outstanding feature of the meeting was the dedication of Purdue University's new $200,000 pharmacy building. The exercises were held in Eliza Fowler hall with many notables in attendance. Among those present at the convention and dedication exercises were: Dean R. A. Lyman, University of Nebraska and representative of the American Council on Education; Dean W. B. Day, University of Illinois; Dean Edward Spease, Western Reserve University; Dean C. A. Dye, Ohio State University; Dean R. H. Raabe, Ohio Northern University; Dean G. L. Curry, Louisville College of Pharmacy; Dean W. F. Rudd, Medical College of Virginia; W. L. Scoville, Detroit; Dr. E. L. Newcomb, New York City; Prof. A. F. Schlichting and Dr. A. Hogstadt of the St. Louis College of Pharmacy; W. Bruce Philip, California College of Pharmacy; Secretary S. C. Henry of the National Association of Retail Druggists; H. S. Noel, F. E. Bibbins, J. S. Wright of Indianapolis, and

President H. C. Christensen, of the AMERICAN PHARMACEUTICAL ASSOCIATION.

The officers for the ensuing year are: *President*, R. I. Beddoe, Bedford; *First Vice-President*, F. E. Ebershoff, Lafayette; *Second Vice-President*, C. F. Wilson, Rushville; *Third Vice-President*, Roy Skinner, Plymouth; *Secretary*, J. V. McCullough, New Albany; *Treasurer*, J. W. Weis, Hammond.

AMERICAN PHARMACEUTICAL MANUFACTURERS' ASSOCIATION.

The 23rd annual meeting of the American Pharmaceutical Manufacturers' Association was held at Hot Springs, Va., June 9th to 12th. A number of valuable reports were presented, among them that of the Contact Committee. Addresses were made by Dr. J. J. Durrett and Dr. J. F. Cullen, of the Division of Drug Control, U. S. Department of Agriculture. Secretary E. F. Kelly attended as representative of the AMERICAN PHARMACEUTICAL ASSOCIATION. Among the speakers at the banquet were, Dr. O. S. Wightman of New York Medical Society, Herbert R. Mayes, of the *American Druggist*, Jerry McQuade of *Drug Topics*, Harry J. Schnell, of *Oil, Paint and Drug Reporter*.

BOOK NOTICES AND REVIEWS.

The Properties and Uses of Drugs. By HENRY H. RUSBY, Ph.M., M.D., D.Sc., and A. RICHARD BLISS, JR., A.M., Phar.D., M.D., and CHARLES W. BALLARD, A.M., Phar.D., Ph.D. xvii and 823 pp. P. Blakiston's Son and Co., Inc., Philadelphia, 1930. Price $6.50.

This work has been prepared by three well-known scientists for the purpose of meeting the requirements of the pharmacy students and practicing pharmacists on the subjects of drug properties and uses. As stated in the preface, the authors disclaim any intention of providing a textbook of therapeutics and have made no attempt to restrict the list of drugs on the basis of merit or repute. The book contains a table of contents, 24 chapters, 3 appendices and an index.

The chapters deal with the following topics arranged in the sequence of the text: 1, Official and Legal Standards, Definitions, Posology, Modes of Administration of Medicines. 2, Toxicology. 3, Drugs Used for Coloring Purposes. 4, Absorbents and Dusting Powders. 5, Adhesives, Demulcents and Protectives. 6, Drugs Acting as Irritants to the Nerve Endings. 7, Drugs Preventing or Relieving Irritation of the Nerve Endings. 8, Nutrients and Foods, Medicines Affecting the Appetite and Digestion. 9, The Bitters and Aromatic Bitters. 10, The Astringents. 11, Drugs Affecting the Circulation. 12, The Cathartics. 13, The Carminatives. 14, Drugs Affecting Glandular Activity. 15, Medicines Affecting the Respiratory System. 16, The Nervines. 17, Alteratives and Tonics. 18, Drugs Acting Chiefly by Their Contained Saponins. 19, Drugs Acting by Their Antiseptic, Disinfectant and Antiparasitic Powers. 20, Agents Inhibiting Bacterial Action and Decomposition. 21, Antiseptics and Disinfectants—Physical Agents. 22, Antiseptics and Disinfectants—Chemical Agents. 23, Antiseptics and Disinfectants—Biological Products. 24, Antiparasitics.

Appendix A deals with the Insecticides, Fungicides and Fumigants; Appendix B with Pharmaceutical Sundries and Appendix C with a Veterinary Dose Table.

The chapter on Toxicology discusses the nature of the symptoms of poisoning. Antidotes are discussed under poisonous drugs throughout the book. Chemical methods of detecting poisons are not given.

In their treatment of drugs the authors follow the therapeutical method of classification. Their system of grouping the therapeutic classes acting upon similar tissues into separate chapters is good pedagogy, for it breaks the monotony experienced by students in following out a lengthy chapter on therapeutic classification even though it may be minutely subdivided into captions.

The data in the monographs dealing with organic drugs, in general, follow this sequence: Latin and English titles, and synonym or synonyms (in bold face type), origin, preparation, constituents, uses, dose and preparations. The data pertaining to inorganic drugs include, in general, information pertaining to the definition, purity rubric, preparation, physical properties, uses, dose and preparations.

In addition official drugs are defined, interesting comments are made in many cases under origin, the toxicology of poisonous drugs is given and the adulterants or causes of inferiority of many drugs are briefly commented upon.

This work is unique in several respects. In the first place, unlike most other materia

medica texts, it is plainly a pharmacists' pharmacology. We do not have to read many pages without recognizing on the part of the authors an intimate knowledge of the needs of the modern practicing pharmacist. The introduction of appendices dealing with insecticides, fumigants and fungicides, sundries such as rubber goods, plasters and surgical accessories such as ligatures, sutures, stomach tubes, bandages, tourniquets, catheters, etc., are commendable, for pharmacy students do not ordinarily receive the broad training on these accessories essential to the effective handling of a variety of them in the average drug store. Others without any drug store experience can be materially helped in their preparation to handle these articles through the careful study of these portions of the work. In the second place the authors have stressed a number of problems ordinarily passed over with little or no comment in most materia medica texts. Of these the well-written monographs on "Infant Foods and Saponins" are especially commendable.

Moreover, there is a freshness and an easy style of verbage throughout the whole work which stimulates the reader to complete a monograph and go on with others. The work lacks the extremely technical style of verbage found in many works of this character.

Very few errors of fact or typographical errors were noted. Several peculiar statements were observed. For example, under Pituitarium (page 251) the authors state that the active constituents are two amines. This has not been accepted by many competent pharmacologists whose information demonstrates that only one active constituent is present. Under Ergota (page 253) the authors misquote the Pharmacopœia in stating that ergot, in the form of fluidextract, is administered by intravenous injection to single comb white Leghorn cocks; intramuscular injection is specified in the Pharmacopœia. Under Nux Vomica (page 391) the authors state that strychnine "not only makes the aged feel younger, but, used with intelligent care, it is employed to retard the aging process." Proof of this should have been added, at least by a reference.

The text is printed on substantial paper and well bound. It represents a valuable addition to the growing list of pharmaceutical text and reference works and will be found a very useful reference in the hands of practicing pharmacists. HEBER W. YOUNGKEN.

A Textbook of Pharmacognosy—Third Edition. By HEBER W. YOUNGKEN. In order to include the recent drugs and the recent information about the old drugs, this text naturally is somewhat larger than the previous editions.

Many new figures have been added which aid considerably in teaching the structure of drug plants. Of these the photographs and drawings are better than the photomicrographs. As the science of photomicrography improves we hope that such textbooks as this will be better illustrated.

The photographs of the drug plants and those showing the method of production of some plant principles add much to the value of the book. One cannot include too many such illustrations in a textbook of pharmacognosy.

Under the history of pharmacognosy valuable information is added in a condensed form. This interesting phase of the subject has been neglected in the past and it is gratifying to note that more recognition is being given to it.

One criticism of the book is that in Chapter II the author has not been consistent in treating the various plant parts used in medicine. Under "roots" and "seeds" he has followed a good outline, the various divisions being placed in bold-face type. This adds to the teaching value of the book and should have been followed in treating the other plant parts.

In Chapter III under "Microanalytical Methods," the author presents the very latest information on this subject. While some of the best microanalysts of the country question the accuracy of any known method for quantitative microanalysis, it is good to present the subject in this kind of a text.

In many texts, and even in the Pharmacopœia, authors have failed to include definite contrasting characters in describing closely related and similar drugs. In this text, however, the author seems to have realized the importance of this method of describing drugs. As illustrations we may cite the descriptions of Cubeb and Pepper; Peppermint and Spearmint; and the two varieties of Quassia. Some teachers will be pleased to find that the dose of each drug has been included.

As a whole the book shows that the author is making it a more teachable one. C. J. ZUFALL.

OMISSIONS FROM THIS NUMBER.

On account of the minutes of the General Sessions, House of Delegates and Committee Reports it is necessary to omit several of the Departments from this number of the Journal.